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THE ORIGINS OF CIVILIZATION

THE EARLIEST PHASE

By E. N. FALLAIZE

Honorary Secretary of the Royal Anthropological Institute

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THE ORIGINS OF CIVILIZATION

CHAPTER I

INTRODUCTORY

ANTHROPOLOGY, and in particular that branch of the science known as prehistoric archæology, which deals with man and his culture in the past before written record, as a systematic scientific study is a subject of comparatively recent growth. It is only just over a hundred years ago that the spade of the excavator in Kent's Cavern, Torquay, began to raise doubt in the more open minds of the day whether the orthodox view of the span of man's sojourns on the earth was beyond question, and it was not until the 'forties and 'fifties of the last century that a change from the static to a dynamic view of the problems of human origins made possible the development of a truly scientific method in their study.

The reason for this late development is not far to seek. Curiously enough it is due to the intense preoccupation of mankind with questions of origins rather than to lack of interest in such studies. There have been few peoples who have not evolved some theory of a divine maker who fashioned the world and the first man, or of some mythical semi-divine hero to whom they owed the origin of themselves as a group, or, if not of themselves, at least of their tribal culture. Osiris in Egypt, Marduk in Mesopotamia, Prometheus, who, with his brother, fashioned man from clay, and stole the divine fire for his use, Maui of the Polynesians, and many another, in all ages and in all climes have taken concrete form to answer man's perennial question of whence and by what means he came to people the earth. In like manner poets and philosophers have speculated on the manner of man's life in his earliest days, depicting the ideal state of their dreams as having already existed in the past. Even as the Australian aboriginal refers to an alcheringa—some vague beatific time in the past, whence originated his customs and beliefs—the classic poets of Greece and Rome looked back upon a Golden Age which in their day had degenerated to an age of iron.

Anthropology, the study of man and his origin, thus came to be closely associated with theology and philosophy, and so it continued to be down to modern times. The impulse towards the first-hand observation of facts, which inspired Herodotus in his travels, and the analysis of data by a scientific method formulated by Aristotle, were sterilized by the schools of philosophy and theology of the later classical and medieval times, which, blindly accepting authority for their major premise, solved all problems by abstract reasoning without reference to observation. In the same way, in more recent times, the inductive methods of Bacon and the vast body of facts relating to primitive peoples which were brought together by Hakluyt, Purchas, and others and utilized by Hobbes, by Montesquieu, and by those who began the study of religions and societies on comparative lines in the seventeenth and early eighteenth centuries, were overshadowed by Rousseau and the sentimentalists of that day, who upheld the doctrine of an ideal state of nature and of the essential nobility of natural man from which civilized man had fallen away.

An appreciation of the point of view of earlier theory is necessary by way of contrast to understand the revolution in thought upon which the principles and methods of modern research in anthropology were based. While it was still believed that at some fixed date, about four thousand years ago, man was created perfect in a state of grace from which he had fallen away, it was impossible that the evidence of his early history should even be recognized as such, or at any rate that its full significance should be dimly guessed. Flint implements, for instance, were not unknown, but the name of "elf-shot," by which they are still sometimes known among the rustic population, indicates how they were regarded. Dugdale, in 1650, wrote of stone celts as weapons used by the Britons before the art of making arms of brass or iron was known. One of the earliest recorded flint implements is now in the British Museum, and was found with an elephant's tooth in Gray's Inn Lane, in the City of London, in 1690, and was identified as an early British weapon. The first systematic excavation was that of John Frere, at Hoxne in Suffolk, in 1797, when he brought to light from the Boulder clay a number of fine implements of the type now known as Palæolithic, which were recognized as early weapons or implements. The discovery was recorded in the publications of the Society of Antiquaries, but was forgotten until it was again brought to notice by Sir John Evans in 1859. It was, however, in 1825, as already mentioned, that serious question was first raised in doubt of the accepted chronology. Excavations carried out in the famous Kent's Cavern at Torquay, by the Rev. J. MacEnery, brought to light implements of human manufacture which were in association with remains of animals that not only had long been extinct in this country—sabre-toothed tiger, cave lion, cave bear, hyæna, woolly rhinoceros, mammoth, and others—but had been definitely assigned to a pre-human antediluvian period. Controversy, in which Dean Buckland, the great authority on palæontology of that day, took part, followed inevitably. The authenticity of the find, the human origin of the implements and their association were questioned, but subsequent investigation only served to uphold the first conclusion.

The next discovery of importance was that of Boucher de Perthes, a Frenchman, who found, in association with bones of the mammoth, what were then described as rude flint implements in the gravels of the Somme Valley, gravels which the geological evidence showed to be of a date far more remote than was conceived possible for the existence of man. Yet their finder claimed that they were undoubtedly of human origin. His opponents either asserted that they were due to natural causes acting upon the flint, which, as is well known, is liable to fracture naturally from a variety of causes, or that they were not contemporary with the gravels in which they were found. In 1859 a commission of British archæologists, of which Sir Joseph Prestwich, the geologist, and the late Sir John Evans were members, was formed, visited the Somme Valley, inspected the site, and examined the implements. Their verdict was favourable to the claims of Boucher de Perthes.

From that date forward, the fact that the culture of man—that is, so far as we can know it—begins with the use of stone for weapons and implements has never been seriously questioned. Later investigations in all parts of the world have confirmed this as true not only of the races who first inhabited Western Europe, but of the peoples in all parts where local conditions provide material suitable for the development of a Stone Age culture. But this was not the only point, nor even the most momentous, that had been established. Once it was admitted that these implements were man's handiwork and that they were at least contemporary with the river gravels in which they were found, the geological evidence showed a far higher antiquity for man than was admitted by traditional chronology. It is evident to us now that in archæology, as in other branches of science, the trend of thought was veering towards a position favourable to the acceptance of one of the most pregnant of the achievements of the human mind—the formulation of the theory of evolution.

In 1859 Darwin published *The Origin of Species.* The statement of the hypotheses of the mutability of species which it contained, from that time forward revolutionized the study of human origins. The discovery of the first Neanderthal skull three years earlier, in 1856, seemed, to some anthropologists at least, to have afforded evidence in support of the theory so far as man was concerned. Application of the theory was extended and popularized by Darwin's great disciple, Thomas Huxley, and by Herbert Spencer, who, adapting it to his philosophical and sociological studies, formulated a theory of evolution by which he held that he had found a key to problems in fields other than that of biology, to which Darwin's hypothesis properly belonged. The fact that the symmetrical and orderly systems of evolution in the descent of man, in sociology, and in religion, which were developed by enthusiastic adherents of the evolutionary theory, have not stood the test of time in detail is of little moment. What is of importance is that the study of man had been placed upon a scientific basis, and in the study of his culture, material, social, and spiritual, had been embodied the dynamic idea of development in continuity. It is this dynamic idea which is fundamental, for example, in the typological study of culture associated with the name of General Pitt-Rivers, and exemplified at its most highly developed attainment in the museum known by his name at Oxford. It was also fundamental in Edward Tylor's *Primitive Culture*, in which it was applied to the customs and belief of savages and barbarous peoples to show that from the lowest form of belief to the highest a line of development could be traced, and that it was a reasonable presumption, for which there was cogent evidence, that even the highest forms of religion and culture had each passed through these stages of development. Still further advance was made possible by the studies of Lord Avebury (Sir John Lubbock), who, by bringing the results of the study of contemporary primitive peoples to bear upon the interpretation of the relics of prehistoric man, explained their use and purpose in the light of analogies drawn from the implements, customs, and the mode of life of man in all parts of the world in recent times.

CHAPTER II

THE METHODS OF ARCHÆOLOGY

THE brief historical sketch given above will serve to indicate the theoretical ideas which underlay the development of anthropological theory and method. In their application to the special problems of prehistoric archæology the aim of these methods is to differentiate and determine the characteristics of any given phase of culture, and at the same time to demonstrate its relationship in character and in time to other phases of culture. The methods of archæology have now been so highly elaborated that it is possible to arrive at a conclusion on both these points with relatively only a very small margin of error.

At the risk of appearing tedious, it is necessary for the proper understanding of archæological theory to explain a little in detail the method employed in dealing with a find in archæological exploration in order to interpret its significance. In the first place, it has to be remembered that the greater part of archæological material is now recovered from beneath the surface of the ground. It may be turned up accidentally in the course of agricultural operations, as in ploughing, in excavating for the foundation of a building, in quarrying, or more often in digging in a gravel pit, less frequently in mining operations. On the other hand, the systematic prosecution of archæological research is generally the result of purposive excavation. A known or suspected site of a buried building or city, or a mound known or expected by its character to cover a burial, is purposely explored with the spade. In the case of accidental discovery it is, unfortunately, generally the case that the evidence required by the archæologist is lost beyond recovery. But in the case of the purposive excavation, elaborate measures are taken to secure such evidence by insuring that the exact position of every object found is accurately recorded. Now, it is clear that in digging down in an artificial mound or on a site which is the result of the accumulation of débris over hundreds or even thousands of years, and especially where the same site has been used for a succession of buildings or cities, as is usually the case, the uppermost layer will be the latest and the lower the earliest in time, provided no disturbance has taken place. A record, therefore, of the stratum from which each object was taken will give a chronology of all the objects found on that single site in relation to one another. A type of pottery found in the lowest stratum will be earlier than a type found in the highest, it being understood, however, that sometimes a single type may persist through several strata. But in addition to this vertical relationship of sequence, the horizontal relationship of association in the same stratum must be kept in mind. Then, if, by any chance, one of the objects in any given stratum is dateable by reference to a similar object found elsewhere, that fact serves to fix the date, not only of all the objects found within that stratum, but within certain limits of those in strata both above and below that given stratum. This gives only a relative chronology, it is true, but it may still have an exact meaning for the archæologist. It gives him the stage of civilization of that particular culture. It belongs, let us say for the sake of example, to the late Bronze Age or the early Iron Age, such an identification carrying with it by implication a connotation derived from the study of that period on other sites. Moreover, if the object to which a find is referable has itself been brought into relation with a fixed date, such as, for instance, the reign of Sargon of Agade in Mesopotamia, or with one of the dynasties of Egypt, this gives the absolute chronology, the exact dating, as well. It is possible to say at once that the object is of such-and-such a date. Again, in tracing the relative chronology vertically, it is possible to follow the succession of types, or the successive changes in type, which are the result of conscious modification or of unconscious alteration due to degeneration in copying. It is, then, possible to suggest a probable relative chronology by reference to the type series. It is by a combination of these methods that Professor Sir Flinders Petrie has built up an elaborate series of sequence dates in Egyptian prehistoric archæology, which has proved invaluable in elucidating the results of excavation. By its use any object of an already known type can at once be referred to its proper place in the historic sequence, while an object of a new and unknown type can be " placed " if objects of known type are found in association with it, as is often the case.

For the sake of clearness, the methods outlined above have been explained in their application to the excavation of a city or occupation site, of which the civilization has been of a comparatively advanced type; but the method applies equally to the excavation of the simple culture of a cave or shelter, such as was inhabited by Stone Age men. Here, however, any animal remains become of great importance. In the later strata they afford evidence of the food in use, or of the domestication of animals, while in the earlier the bones of species that are extinct or no longer found in the area give evidence of date. When we go further back to the earliest stages of culture, even animal remains may fail. The evidence of date may be purely geological. The character of the strata will determine whether the find is recent or whether it belongs to an earlier geological epoch. If the stratum in which an object is found is undisturbed, that object will be at least as old as the date of deposition of the stratum. It may, of course, be considerably older, a fact which will be indicated by abrasions, by signs of weathering, or of water action. This was the case with the Piltdown find, where there were indications of a wash out of an earlier deposit. The earlier types of Palæolithic implements are, as a rule, found in the gravels of river valleys, such as those in which the discoveries by Boucher de Perthes in the Somme Valley were made. Then the criterion of age is, in part, the character of the gravels, in part their height above existing river level. Having been laid down as the river water washed out its bed, the higher they are above present level, the earlier they are in date. Earliest of all are the flints, accepted by some archæologists as implements, which are found in the plateau gravels, belonging to an earlier system before the present rivers had begun to flow in their existing channels.

It may not be out of place here, and as an introduction to what follows, to give the main results attained by the employment of the methods outlined above in the classification and determination of the sequence of cultures in the history of civilization, as revealed by archæological research.

The earliest culture for which evidence has survived is one of stone, and it is in the earlier stages of flint, or of stone with a similar fracture, which can be worked in the same way. The Stone Age is divided into three main divisions—the Eolithic (the Dawn period), the Palæolithic or Old Stone Age, and the Neolithic or New Stone Age. This is followed by the age of metals, beginning with copper, and passing on to the Bronze Age, which in turn is followed by the Iron Age, these ages being called after the material predominantly in use for the manufacture of tools or weapons, and the sequence of copper, bronze, and iron indicating the chronological order in which they are brought into use. The Iron Age shades off in the historic period with the introduction of written records, although in most cases an inadequate record has for some time still to be supplemented by archæological research.

In regard to these divisions of the prehistoric period, it must be remembered that although there is evidence that the great historic races have passed through these phases of culture, they have not all lived in them simultaneously. Mesopotamia had entered upon the Metal Age while Western Europe had still some centuries of Stone Age culture to come, and most of the primitive races of to-day were still in the Stone Age when they first came into contact with Western civilization. In other words, although in the Near and Middle East and in Europe these major divisions of the prehistoric period may serve as an approximate chronology, it is a chronology which is restricted to specific areas, and not generally applicable. In strict observance they denote successive phases of culture only.

CHAPTER III

MAN AND HIS ENVIRONMENT

THE task of the archæologist is to piece together the story of early man, paragraph by paragraph, by a process of inference from isolated facts which have more often than not been wrung at haphazard from the bosom of the earth. It may seem remarkable that so much has been recovered; yet it is almost equally surprising that we have ascertained so little, at least, in some directions. It is true that the spade of the excavator has turned over little in proportion to the vast area of the globe. Commercial exploitation of the earth's resources, such as quarrying and mining, have touched relatively only a small part of the strata which are likely to prove fruitful in relics of early man and his handiwork, and although agricultural operations and the plough have brought to light much that illuminates man's history, it is at a comparatively late stage of his development. The law of chances would appear to weigh against any given discovery. Yet, in reality, the explorer in prehistory is by no means so heavily handicapped as would appear. Man is conditioned by his environment. His place of habitation is determined by circumstances of climate and geographical formation, by site, vegetation, food, and water supply, and the facilities for shelter from the weather. Many of the most important discoveries relating to earliest man have been made fortuitously; others have been the result of consciously directed search. It is only of recent years, however, that systematic endeavours have been made to find evidence of man's place of origin in accordance with the indications of scientific theory. The expedition of the American Museum of Natural History to the Mongolian Desert, which has achieved fame by the discovery of the eggs of the dinosaur, had as one of its objects the search for relics of early man and his precursors in an area to which facts already known pointed as a possible place in which man may have passed through the earlier stages of his evolution. It may be that future research, consciously directed in this way, will increase the sum of our knowledge with a rapidity hitherto unhoped for.

The areas in which it might be profitable to search for evidence of earliest man are by no means so unrestricted as the present distribution of mankind might suggest. Increased facilities of transport during the last hundred years have given man an illusive mobility and an adaptability to variation in climatic and geographical environment which is probably more apparent than real. Time alone can show how far the varieties of the human race can withstand successfully transplantation to a widely differing environment from areas to which each has become adapted by a long process of selection lasting over hundreds, possibly thousands of years. It yet remains to be proved that a white man's family, permanently settled even in such favourable conditions as Kenya affords, can endure for more than one or two generations. Culture, as the experience of the last three hundred years has shown, tends to degenerate in an alien environment even when in touch with the homeland. The culture of the Scandinavians who settled in Greenland in the eleventh and twelfth centuries had entirely died out in three hundred years, the settlers by that time having adopted the habits and culture of the Eskimo. The influence of environment and climate had proved too strong for the successful maintenance of a higher standard of life.

While, therefore, it may still be regarded as an open question whether the present generalized distribution of certain varieties of the human race is to be a permanent factor of the future—a matter of the greatest moment for the development of world resources, and the fate of the backward races—it is undoubtedly the case that primitive man, being less mobile than modern man, was more directly subject to the character of his environment; the limits of his distribution more directly determined by climate. This was, of course, an immediate effect of man's still very imperfect control over material conditions. It is only with the increase in such control that man emancipated himself in any considerable degree from the action of environment, while in correspondence his own reaction upon it becomes more marked.

It must always be remembered that in the study of origins, whether it be of man himself or of his culture, of direct evidence for the earliest stages of development there is none. It is a matter of inference, of weighing probabilities and of judging comparatively or by analogy. In default of direct evidence, any suggested place of origin for man, and any theory of his first steps upwards in culture and their nature, must be pure hypothesis. In framing any such hypothesis, we must be guided by such knowledge as can be attained of the environment in early times, while the directions in which search is made must be determined by the early distribution of such conditions as must have prevailed, in order to admit of the order of development of which we have already learned from the evidence at hand. In other words, the environment must have been of such a character as to make progress possible.

Although it would not be difficult to sketch in general terms the features of an environment which early man must have required for the first stages of development, and to support the argument by the analogy of conditions under which primitive races of to-day carry on their existence, it is both wiser, lest we devise an Anthropological Man similar to the "Economic Man" of bygone theory, and more instructive, to examine the conditions under which man actually has advanced so far as these conditions have been revealed by research. It may, however, be mentioned that the place of origin of man is sought in both Africa and Asia. The former theory is that which was favoured by Darwin, the latter is at present strongly supported by a school of American anthropologists. So far as our knowledge of the climate at that stage of the world's history is concerned, conditions both in the area of North Africa, which is now the Sahara, and in Central Asia would be favourable for the provision of a country not too thickly wooded and well adapted to the support of animal life.

CHAPTER IV

THE PRECURSORS OF MAN

THE study of prehistoric archæology begins in geology and palæontology. In attempting to arrive at some idea of how man first came into being, the anthropologist must look to the work of the palæontologist in tracing the gradual evolution of the animal world from its earliest beginnings. In attempting to estimate the duration of man's existence and to fix the date when he first appears, the anthropologist must ask the geologist for an estimate of time that has elapsed since the strata were laid down in which man's earliest relics appear.

As a result of an examination of the stratification of the rocks of the earth's surface, geologists have classified them in such a way as to divide up geological time into a series of epochs, which, beginning with the earliest, are named Primary, Secondary, Tertiary, and Quaternary, including Recent. It is only with the Tertiary, Quaternary, and Recent that the anthropologist is immediately concerned. The Tertiary Epoch has been divided up into a number of divisions, which have been named according to the proportion of early and recent fauna found among the animal remains. The earliest is the Eocene, so called because it shows the very beginning or dawn of recent fauna, which is followed by the Oligocene, showing a few of the recent fauna. Next comes the Miocene, showing a larger but still small proportion of Recent, and then the last division, the Pliocene, in which there is still further increase. The Quaternary Period begins with the Pleistocene, in which the older type of animal life still survives at the last stage before its extinction. With the Holocene it finally becomes extinct, and modern fauna prevail.

It is necessary that these details, which at first sight may seem outside the scope of the subject, should be kept in mind, because it is by reference to the animal remains, which are found in association either with human skeletal remains or with weapons and implements, that it is possible to refer any given fact to its proper place in the sequence of man's history. For instance, when the tooth of an extinct form of tiger was found in Kent's Cavern in association with relics of man, it at once became evident that, the stratum being undisturbed, man must have existed at a period preceding "recent" times.

It is at present impossible to say with any certainty at what point in the sequence indicated above man first appears. This is in part due to a terminological difficulty, for as yet no satisfactory definition of man has been made. He has been called a "tool-using" animal, but this definition is not entirely satisfactory because some of the higher apes make use of stones and sticks in such a way as to make it evident that if it is not quite correct to call them "tool-using," they are at any rate on the verge of that stage. Indeed, one ape at the Zoological Gardens a few years ago might almost have been said to have reached the stage of inventing a tool, for in order to break out of its cage it disentangled a strand of wire and, by holding the two ends and pulling the wire backward and forward, it succeeded in sawing through the woodwork. A more satisfactory definition would be to call man a "tool-making" animal, to indicate the purposive modification of material in devising mechanical means towards the attainment of the end. The question of definition, however, is not of very great moment while so much in man's precise line of descent still remains uncertain.

Man belongs to the group of mammals known as Primates, originally, and still, for the most part, climbing animals, which have certain structural features in common adapted to their arboreal habits. A primitive group of primates survives in the lemurs which are still found in Madagascar. An interesting allied form, Tarsius, lives in the Indian Archipelago and the Philippines. It differs from the lemurs in several characters, and these differences are such as to suggest that it may represent an advance beyond the lemur in an evolution towards the higher apes. Its most important differentiating characters distinguishing it from the lemur are its flattened face, as opposed to the projecting muzzle of the lemur, and its forward-looking eyes. As Professor Elliot Smith has pointed out, it has made an advance towards the stereoscopic vision, which is of the greatest moment in its effect on the structure and function of the brain and in its development of the capacity for attention.

The higher primates, known as anthropoids, fall into two groups, the platyrrhines or flat-nosed members inhabiting the New World, and the catarrhines or narrow-nosed members inhabiting the Old World. On anatomical grounds man is ranged in a class with the gorilla, chimpanzee, orang, and gibbon. This fact alone would militate against the theories which have been put forward for the South American origin of man.

It was at one time believed that the anthropoids, beginning with the gibbon, could be ranged in an order of ascent, ending in man, with the gorilla as the nearest relative. Further research, however, has shown that while the gibbon is the farthest removed from man, and the orang shows the greatest degree of adaptation to arboreal life, no one in all its characters approaches more nearly to man than another. Both gorilla and chimpanzee have progressed in some measure towards a life on the ground, and they can and do, to some extent, walk on their hind-legs, but the gap, both in size and in conformation, between the brain of man and the higher apes is very considerable. The projecting muzzle and highly developed ridges for the attachment of the jaw muscles in the ape would alone serve to emphasize the gulf which lies between. Further, the habitually erect posture of man requires a very considerable structural adaption, not merely in the skeleton, but also in the arrangement and balance of the viscera, which can only be the product of a long process of evolution.

It is not possible to say that the original ancestor of man and the apes has yet been found. It can, however, be maintained with reasonable probability that while the apes do not stand in the direct line of ascent to man they do own with him a common ancestor. We may even, perhaps, go so far as to form some idea of this hypothetical common ancestry. In India, in Egypt, and in Europe remains of very primitive types of ape have been found, which are thought to be very nearly related to the original types of the ancestral anthropoids. Of these the earliest known is Pro-pliopithecus, from the Oligocene of Egypt, which has been put forward as one of the grounds for attributing the origin of man to Africa. Other authorities, however, having in view certain considerations which will appear later, consider that the primitive fossil apes found in the Siwalik hills of India of Miocene and Pliocene age favour an Asiatic origin.

Without going into further detail of a somewhat technical character upon which the conclusions are based, it may be said the generally accepted opinion at the moment is that man and the apes have a common ancestry and belong to the same stock. In the course of evolution the apes specialized in such a way as was best adapted for arboreal life, but that when once they reached a certain stage in that environment they ceased to advance. Man, on the other hand, retaining later the more generalized character of the original stock, has been more readily adaptable to changing conditions and thus has continued to advance through various successive stages until the type of modern man was attained.

This conclusion is by no means entirely hypothetical, for we have evidence of some, at least, of the stages through which man has passed, although from what has been said it is clear that they do not represent the "missing link," which, indeed, must be regarded as a myth.

One of the earliest relics for which a humanoid origin has been claimed must be mentioned, although it does not bear immediately upon the question under consideration. This was a tooth which was found in Nebraska; its human origin has been disputed, notwithstanding the verdict of experts in human dentition. There can, however, be no question as to its age, and if correctly identified it would represent one of the earliest of human relics known.

The most famous of the precursors of man yet discovered is that of *Pithecanthropus Erectus,* the Ape Man of Java, discovered in 1891 by Dubois, a doctor, at the village of Trinil. Parts of the skeleton only were found, but they are highly significant. The skull cap is low and flattened and has enormous eyebrow ridges, recalling those of the gorilla and chimpanzee. The thigh-bone is curved, but still of such a shape as to indicate that this being walked erect; less erect, it is true, than man, but undoubtedly he did habitually adopt the upright posture and fully merited the name given to him, the Ape Man. It is possible that he may even have been able to talk in rudimentary fashion. The age of the stratum to which the remains belong is not absolutely clear, and some discussion has taken place as to whether they should be attributed to the Pliocene or Pleistocene periods. Probability is in favour of the latter.

Another discovery for which a very high antiquity has been claimed, on the grounds that it represents a midway stage in the evolution between man and the ape, is the Taung's Skull from South Africa, which was found as recently as 1925. The skull is that of an undeveloped individual still at an infantile stage. Professor Dart, by whom it was first described, held that the anatomical characters displayed a very marked approximation to the human type, although it was clearly not of human origin. It cannot be said that these conclusions have been accepted without question, and it has been pointed out, with some effect, that the young of the chimpanzee display many human or humanoid characters, which disappear as the adult stage is reached. It is, however, a specimen of a very considerable antiquity, of importance in the history of the anthropoid stock, and represents an unexpected range southward for the early great apes.

Although this would seem an appropriate point at which to discuss the question of the descent of man, it is convenient to postpone its consideration for a time. The argument will be more readily understood when early types of man have been described.

CHAPTER V

EARLY TYPES OF MAN—THE LINE OF DESCENT

When we turn to the skeletal remains which can be called specifically human, we find that, although there is ample evidence from which inference can be drawn as to the mode of man's descent, there is little which indicates any direct line of descent, such as was once believed to exist, which would lead back from modern man through Neanderthal Man and Pithecanthropus to the higher apes. Yet in the earlier specimens there is much in their primitive traits to show how certain characters have undergone a process of modification from the ape-like until they have assumed the qualities of modern man.

The oldest skeletal remains of truly human type of which we have knowledge come from Germany. In 1907 a massive jaw was found in the lower Pleistocene gravels at Mauer, near Heidelberg. In addition, two molar teeth come from Taubach, near Weimar, and part of a lower jaw and a child's lower jaw from Ehringsdorf, also near Weimar. Approximately of the same age—possibly a little earlier, possibly a little later, it is not agreed—are portions of the skull, one lower jaw, and a tooth, found at Piltdown in Sussex, England. The last named came to light at different times. The first discovery was made by the late Mr. C. Dawson in 1912. On account of the age of the deposits with which they were associated and their primitive character, they have been christened Dawson's Dawn Man (*Eoanthropus Dawsoni*).

Although the German and the Piltdown remains both belong to the Lower Pleistocene, there are considerable differences between them. The Taubach Teeth are ape-like, and the Ehringsdorf Jaw, although much mutilated, is also very ape-like in form. This simian character is very marked in the backward slope at the point where the two sides of the jaw join. This in man would be the chin, but in this specimen the chin is practically absent. The Mauer or Heidelberg Jaw is one of the most famous of the early remains of man. Its most striking characteristic, which is immediately apparent to the least instructed observer, is its enormous size and massive character. The ascending ramus—*i.e.*, the square-shaped part of the lower jaw, which rises almost at right angles to the rest of the jaw at the back of the teeth—is extremely heavy and square. It is not very much like either that of modern man or of the chimpanzee. It has a much greater resemblance to that of Neanderthal Man. As in the apes and in most of the early specimens of man, there is practically no chin, although the conformation of the jaw at this point, the symphysis, is well removed from the condition of that of the ape. Certain ape-like appearances on the inside of the jaw, connected with the muscular structure of the tongue, make it improbable that this being could use his tongue for the purpose of talking, even though, as has already been seen, it was probable that Pithecanthropus had some 'powers of rudimentary speech. The teeth are large and strong, but distinctly human. The fang-like character of the canine teeth in the apes is absent. Generally they have the characters of the teeth of some of the strong-jawed modern races such as the Australians. Taking all these characteristics into account, it has been concluded that the Heidelberg Man is to be regarded as an ancestor of Neanderthal Man, to be described presently.

Turning to Piltdown Man, we have a being very different in type, notwithstanding its very primitive characters. The jaw in particular is markedly primitive, so much so that some anthropologists, especially in America, were at first of the opinion that it was the jaw of an early chimpanzee and did not belong to the remains of the skull with which it was associated. The symphysis is very ape-like, and sloped backwards even more than in the Mauer Jaw; the ascending ramus is broad, but rather more in line with that of modern man than the Mauer. The teeth present a close resemblance to those of the ape in certain details, while the canines project far beyond the others. The jaw as a whole is much more ape-like than the Mauer Jaw. On the other hand, the skull, it has been concluded, approaches the type of modern man. Only fragments were found, and there was considerable difference of opinion as to how it should be reconstructed. The first attempts appeared almost irreconcilable with the character of the jaw, but the reconstruction made by the late Dr. Hunter and Professor Elliot Smith, while in no way affecting its alleged affinity to modern man, by modifications in certain anatomical details at the back, reconciled the discrepancies by putting them in their proper perspective as stages in an evolutionary process. A skull capacity of approximately 1,300 cubic centimetres, which indicates that the skull was capable of accommodating a brain well on the way to the size of that of modern man, fully endorses the view of Professor Elliot Smith that the evolutionary process advanced first by modification in form and increase in the size of the brain. One point of which the importance will be more fully appreciated when the physical characters of Neanderthal Man have been described is that the brow ridges are smooth and do not project as they do in the apes. The Piltdown Skull is held to be that of a female, and therefore it would be expected that it should be of a less massive character than that of a male; but even so it seems reasonable to conclude, when all the characters are taken into account, that here we have an ancestor of modern man in direct line of descent.

The evidence points to Piltdown Man having been contemporary with the Chellean culture of the early Pleistocene. In the Middle Pleistocene, and always associated with the Mousterian culture of the Middle Palæolithic Age, we find the remains of the remarkable type known as Neanderthal Man, from the fact that the first skull of this type was found in a cave on the River Neander, in Germany. It appeared so remarkable that, when it was first found, many doubted whether it was that of a normal man, and not a diseased specimen. Prolonged investigation and the discovery of some fifty examples in different parts of the world have now made it clear that it is normal in the sense that it is in no way pathological, although it is not of the type of modern man. Those who at first upheld its normal and human character were prepared to see in it a stage in the upward progress of man; but it is now the generally held opinion that Neanderthal is a distinct species which branched off from the human tree at some early date, but which, owing to its failure to adapt itself to changing conditions, died out entirely before the intrusion of the modern type, better equipped in mind and body, which appeared in Europe towards the end of the Ice Age. Some anthropologists, however, are still disposed to see in Neanderthal Man a stage directly in the line of human descent. On the ground of certain resemblances it is suggested that the Australians are their modern representatives, the primitive Talgai Skull found in Pleistocene deposits in Australia and the skull from Wadjak in Java, which is described as Proto-Australian, providing connecting links. Others also are not entirely convinced that the Neanderthal people became entirely extinct, and see in some of the skulls of a later period in Eastern Europe a survival of Neanderthal character, while others would also find survivals in some of the modern population of the seacoast of Frisia and in Northern Germany.

Neanderthal Man is such an important factor in the history of Palæolithic Man that it is necessary to consider his skeletal remains in some detail both as to distribution and to character. He appears on the scene, according to the view which has been adopted here, in a warm period of the earth's history in the Middle Pleistocene. But a little later, with the change in climate to intense cold, Neanderthal Man took shelter in the caves. And for almost the whole of the remainder of the Palæolithic period man was predominantly a cave dweller. The skeletal remains of Neanderthal Man have been obtained by excavation in caves which have a wide distribution. They have been discovered at Gibraltar, Neanderthal, La Naulette, Spy in Belgium, Malarnaud, La Chapelle-aux-Saints, Le Moustier, La Ferassie, La Quina, and in Galilee, Malta, and Jersey. In the two last-named cases the teeth only were found, but the teeth of Neanderthal Man are so characteristic as to make their identification unmistakable.

In geographical range Neanderthal Man thus extends from Palestine to Western France—that is, if we leave out of account a doubtful find in China, in the province of Honan, of a sacrum which may not be human. A skull of strongly marked Neanderthal type has recently been found in the Caucasus. Another example from outside Europe is the Rhodesian Skull, which, however important on morphological grounds, probably is of much later date than the European specimens. Implements of the type usually associated with Neanderthal Man are found in the Nile Valley and in North Africa. This distribution rather suggests that Neanderthal Man originated in Asia and came to Western Europe from the East, afterwards crossing the Mediterranean land bridge into Africa, and that Rhodesian Man may represent an offshoot of this race, which did not entirely die out, but lingered on in the south of that Continent. At present it seems less likely that the reverse was the process, and that the migration into Europe came by way of Africa. Some authorities would hold that in Eastern and Central Europe Neanderthal Man perhaps existed contemporaneously with the later men of the preceding Chellean culture in France.

As regards physical characters, Neanderthal Man exhibits some little diversity. The Gibraltar Skull and the Galilee Skull both show modifications in form which suggest that they may represent late specimens which had evolved to some extent from the original towards a more refined type. Both, however, appear to be female, and the evidence must, therefore, to some extent, be discounted.

The most marked features of the Neanderthal type are the very heavily marked brow ridges, which project like those of Pithecanthropus and the apes, the retreating forehead, low flat nose and projecting muzzle, the large teeth, the heavy massive jaw with its absence of chin, the enormously powerful neck, thick and muscular, the low retreating brow, and the forward thrust of the head, due to the fact that the spinal cord entered the skull by the hole known as the *foramen magnum,* at a point further back than in modern man. The brain case is large, but the brain, as has been shown by casts taken of the inside of the skull, was of a lowly undeveloped type. The legs are relatively short compared with those of modern man, and their form shows that the forward thrust of the head and face was accentuated by the fact that the type did not walk quite erect. Taken as a whole, Neanderthal Man was a low and brutish type, which, in appearance, must have been much like the gorilla or chimpanzee. The famous Rhodesian Skull, which was discovered at Broken Hill in 1921, in certain respects presents an advance on Neanderthal Man; the head was carried more erect, the posture was more upright, and the brain was more highly developed;

but in its external characters, the receding chin and the projecting muzzle, it was still primitive in type.

With the extinction of the Neanderthal Man we come to a term in prehistory, the end of a phase. From this time on we enter upon the age of Modern Man. In culture at first no very heavily marked difference is to be discerned. But it soon becomes apparent, not only in the physical type of man, but in all the finer distinctions in intellectuality and in delicacy of perception, which may be inferred from differences of physique, and from the more delicate adjustments of means to ends exhibited by the greater specialization of weapons and implements. In the employment of material capable of being shaped more delicately, involving a finer co-ordination of movements, and a more subtle adjustment of hand and brain, the man of the later age stands far from Neanderthal Man. Hitherto man, though well removed from the brutes and substantially advanced on the way of civilization, still retained much of the animal type.

It may not be inappropriate at this point to emphasize the conclusions which emerge in their bearing upon the descent of man in so far as early types throw any light on the problem. A detailed examination of the skeletal character of the anthropoids—Pithecanthropus, Australopithecus (if that individual is not immediately dismissed as an immature chimpanzee), Heidelberg Man, Piltdown Man, and the variations in Neanderthal Man—point to the fact that while there is, in general terms, a well-defined advance along lines leading towards the specifically human, yet there is no regularly graded advance from one type to another which would make it possible to say that any one of the early types is directly ancestral to the other. Neanderthal may represent a stage midway between Pithecanthropus and modern man; but it would be incorrect to say that he stands halfway directly between the two; it would be more in accordance with the facts, as we are now able to see them, to say that each of these, with perhaps the exception of the Mauer Jaw, which may be taken as ancestral to Neanderthal Man, stands in relation to the others as the branches of a tree. There is a common stem from which each has branched off at different stages of the growth of the stem. After a period of further development the branch has ceased to grow. The type has become specialized, and this specialization, being at first an advantage in those given conditions, has helped the type to establish itself, but later, as the conditions have changed, specialization has caused the type to die out through lack of adaptability. Neanderthal Man represents an early specialization of the generalized type, and for a time, as the remains of the period show, it has been dominant. Later it has died out, except possibly in the more favourable conditions of Africa, where it survived as Rhodesian Man. The less highly specialized type of modern man has survived, until varieties of this type, too, began to specialize and to pay the penalty. Such a process seems to be taking place at the end of the Palæolithic period, and may explain why, in the modern world, some types remain the backward races and are giving way to the more readily adaptable and less highly specialized white man.

CHAPTER VI

THE DEVELOPMENT OF CULTURE

ALTHOUGH it is difficult to overestimate the importance of the application of the Darwinian hypothesis to anthropological studies, it has to be remembered that it was purely a biological theory. In all strictness it was applicable to man only as a member of the animal kingdom. Yet where it was extended by analogy to the study of his culture, and applied to the study of the changes in type and form of material objects, the conception of development in continuity, which was its essential element, proved a revelation in tracing the history of man's achievement in gradually subduing the material afforded by his environment to subserve his needs. Like the string of a pearl necklace, it gave unity and meaning to a multitude of discrete facts. It made possible a scientific approach to the study of the problems of archæology by demonstrating that any given tool or implement of developed type had a cultural history behind it through which it could be traced back, by organically related stages of invention, to its simplest and earliest form. When the flint implements of Kent's Cavern and the Somme gravels were brought to light, they were recognized as the handiwork of early man; but their real significance in the history of civilization was only dimly apprehended. It was only by the application of the principle of evolutionary development, of the conception of the organic growth, of the more complex and elaborated forms out of the simple, and also by a more complete appreciation of the varieties of technique in flint working, that it came to be recognized that these worked flints, so far from marking man's earliest essays in equipping himself for the struggle for existence, were the product of many stages of development and that they themselves represented a stage only in growth towards later achievement. It still had to be recognized that they were not to be grouped indiscriminately, as the handiwork of early man, with the finer stone working now known to be of a later age.

It is difficult to make clear in abstract language what can be recognized immediately in handling concrete objects. A few minutes' inspection of a collection of flint implements will teach more than pages of description. If a series of instruments arranged chronologically is examined, it will be found that any implement of a late and highly developed type can be traced back through a series of modifications, each in itself perhaps very small, until it can be shown to have originated in some quite simple and generalized form. Thus, for instance, a ground and polished stone axe of late neolithic type or a highly finished arrowhead may be traced to the rudest of chipped flints. The Palæolithic implements first discovered stood at some point, perhaps, midway between these extremes, although they do, in fact, represent a high level of achievement in their special technique. This principle of study is, of course, applicable to objects other than flint implements. It is of the essence of the typological or developmental investigation of material culture.

It was such study of the relation of types one to another, in combination with the study of stratification, which made possible the classification of the products of man's early activities on a principle of organic growth into series which were both chronologically and culturally consecutive, and, as such, indicative of man's upward progress, or at times of his degeneration. Sequence in date and sequence in type are the keys to archæological research.

A cursory survey of the various races of the modern peoples of the world reveals a diversity of cultures, many of a generalized type fundamentally European, others of an advanced type but differing essentially from the European, such as those of India, China, and Japan, while still others stand at different levels of development ranging from the lowest to near the highest and most advanced. Yet, notwithstanding this diversity, the conclusion is inevitable that these varied forms of civilization must have taken their origin from a common stock, just as the many differing races of mankind of the present day must trace their descent ultimately to a common ancestor. When most of the primitive peoples of to-day first came into contact with European civilization, they were using stone for implements and weapons; and as archæological research has been pursued outside Europe, it has become apparent that the more advanced races have also passed through a period when stone was the only material known for uses for which metal is now employed. Speaking generally, every race, every people, except in certain limited areas, has had its stone age, and there is hardly a country in which stone implements have not been found, sometimes with all the evidence of a high antiquity. It is necessary, however, again to emphasize a caution. Owing to the accidental circumstances that relics of the Stone Age were first discovered and studied scientifically in Western Europe, the phrase " Stone Age," with its various subdivisions, is used for purposes of dating to indicate a more or less precisely defined period of time in Europe or Western Asia. Even here it is not strictly accurate in general application, for Asiatic and Mediterranean countries and also Egypt had reached the metal-using stage some centuries at least before Western and Northern Europe. In other parts of the world, however, it can, strictly speaking, give no indication of date whatsoever, without qualification. Often the Stone Age has endured down to modern times. In California only a few years ago a maker of flint implements for his tribe worked on a ledge of rock in the hills which overhung the railway track, while in Australia bottle glass was always placed at the foot of the telegraph posts in the area of certain tribes to serve as material for their very beautifully made spearheads, and to make it unnecessary for them to steal the insulators for that purpose. Except, therefore, when speaking of Europe, where it is conventionally permitted, the phrase " Stone Age " must be regarded as indicating a phase of culture only.

As it is accepted in general terms that all peoples pass through identical grades of culture in their upward progress, so it is generally agreed that in observing a stone-age people of to-day or of yesterday, it is legitimate to deduce from the uses to which they put their implements and weapons, the purpose of similar weapons and implements of prehistoric man. Similarly, from their customs and beliefs, and especially beliefs connected with personal ornaments, with art motifs, and with methods of burial, to form some idea of the ritual and belief with which man of the Stone, Bronze, and Iron Ages adorned his person, decorated his belongings, and consigned his dead to the grave or the funeral pyre. As to his mode of life, it may be assumed that, granted geographical conditions more or less similar and economic and material conditions more or less comparable, so far as these can be deduced for the earlier period, the habits and methods of an agricultural, a pastoral, or a hunting people will afford a sufficiently close analogy to serve for purposes of interpretation. Certain limitations must, however, be kept in mind. The primitive peoples of to-day themselves may have evolved. They cannot necessarily be regarded as having remained stationary in every respect since their culture was isolated from the main stream of development. Some peoples, not many perhaps, have undoubtedly degenerated, and among those whose standard of living may not have altered seriously one way or another, there may have been a retrogression in certain departments of life. The late Dr. Rivers showed that among certain peoples of the Pacific islands, useful arts which had once been practised had entirely died out.

Yet even granting that we may legitimately make use of the primitive peoples of to-day when we seek to interpret the evidence which early man has left us of his daily life, such a comparison does not assist very materially when we seek the earliest phases of human culture, and attempt to picture the beginnings of civilization. The very lowest of present-day peoples, such as the Yahgans of Tierra del Fuego, whose life is passed in conditions so abject as to be hardly conceivable, are as far above what must have been the cultural conditions of earliest man as they must be beyond him in brain power.

As has already been said, it is not clear how far back in the history of the race we are justified in speaking of man specifically. It may be accepted, however, that certainly as far back as the Miocene the ancestor of man had probably started on his upward progress. From that point on we may expect to find evidence of his activities anywhere along the line which stretches to that point in geological time when the skeltetal and cultural evidence alike agree in demonstrating the existence of a being whose human character is beyond question.

Recently considerable attention has been paid to the psychology of the higher apes, and it has been shown that in certain of their mental activities they do exhibit certain approximations to the human mentality, as well as a certain ability in constructive reasoning. One chimpanzee under observation built a ladder of two crates to climb to a bunch of bananas out of reach. Apes will use sticks to bring down fruit, or stones to throw at an enemy. Yet the great apes have not relinquished arboreal life, nor do they of preference adopt the upright posture. It may therefore be no great strain of the argument from analogy to say that in the use of sticks and stones by the apes we may see the first steps taken by the ancestor of man along the upward path, even though it involves the assumption that the apes themselves have remained mentally and physically unchanged in the long period which has elapsed since they split off from the ancestral tree.

In any attempt to fix theoretically, in default of direct evidence, the point at which a specifically human culture might be said to begin, certain anatomical and physiological considerations must be borne in mind. The adoption of the upright posture as a permanency, by leaving the fore-limbs free, would lead to a rapid increase in skill in their use for purposes other than that of progression. This, together with the greater facilities for observation and comparison afforded by the upright posture, reacting on the brain, would lead to a rapid development in the frontal area of the brain, and consequently to the development of the higher forehead—marked features brought out by the comparative study of such skulls of early man and his precursors as have survived. Structure, function, and culture are closely interrelated in development and react continuously one upon another.

CHAPTER VII

THE EOLITH

Remains of the Stone Age are classified into three periods, according to their date in geological time and their type: Eolithic, or remains of the dawn or earliest beginnings; Palæolithic, or remains of the old Stone Age; and Neolithic, or remains of the new Stone Age.

Owing to the heated controversy which has raged over the Eolithic, some authorities prefer the title pre-Palæolithic. This controversy is by no means to be regarded as settled, though perhaps the weight of authority is gradually and slowly turning the scale in favour of the claims for the evidence of a much earlier date for man than was thought possible some years ago.

The question is this: Granted that the earliest implements and weapons of man, or perhaps of his precursor, were sticks and stones, what is the earliest point at which it can be said there is clear evidence of purposive shaping which would justify us in speaking of a humanly fashioned implement? As will be mentioned presently, at quite an early date in the history of the study of flint implements, claims were put forward for the human origin of certain roughly chipped flints from early geological strata. At intervals ever since then similar finds have been brought forward for which the same claim was made. The opponents of the human origin of these chipped flints have argued against these claims on various grounds. It has been said that they allege a much higher antiquity for man than is justified by the evidence of geology and palæontology. No human or subhuman remains of such an age, it is said, are known or even probable. Then that the flints themselves either did not come from the geological strata alleged, or that such strata were not undisturbed. And, finally, that the fashioning of the flints is not of human origin at all.

In order to make clear this last, and, indeed, most formidable, argument, it must be realized that the implements of early man in the pre-Palæolithic and Palæolithic periods are made of flint or of some similar rock, such as chert. Flint has the property of fracturing under pressure or by a blow into sharp-edged flakes. The size and shapes of such flakes in skilled hands can be regulated to a nicety. That a skilled flint-knapper can shape a flint to the most surprisingly delicate forms can be seen, not only in the work of prehistoric man, but in the work by the gun-flint makers of Brandon in Suffolk. Unfortunately for the history of archæological studies, man is not the only agency which can produce these fractures. A blow from another stone—as, for instance, when a flint is being water-borne, pressure under earth movement, frost, or heat—may produce flaking upon which it is difficult even for experts to agree. The upholders of the human origin of the eoliths claim that there are certain signs, product of the technique of manufacture, which are infallible guides, while some French archæologists maintain that individual judgment based upon handling thousands of specimens, genuine and false, is the only trustworthy criterion.

The so-called implements are, for the most part, either circular or slightly ovate in form, roughly chipped at the edges, or shaped to a beak or point, described as borers or piercers. Of the former, some appear to be scrapers; but all are of a generalized type which might be put to almost any purpose requiring some sort of cutting or piercing edge. Stress is laid upon the immense numbers which show identity of form.

The first claim for the human origin of these very early types was made by the Abbé Bourgeois, who in 1867 described flints from an Upper Oligocene deposit at Thenay. Some of these were said to show traces of fire. This, however, is by no means the decisive argument which the discoverer considered it to be, for a fire may well be due to agencies other than human. Heath fires have, in fact, been observed to produce similar markings. Professor Rutot collected a very large number of eoliths in Belgium, ranging in age from the Middle Oligocene to the Pliocene, while in England Sir Joseph Prestwich and Benjamin Harrison for many years collected eoliths from the plateau gravels above the Darenth, Kent, for which they claimed a human origin. A large collection, some 4,000 in number, of Miocene Age, was made at Puy de Courny, Cantal, in France, by Mr. E. Westlake, but the most important discoveries have been made by Mr. J. Reid Moir in East Anglia. Among the last named were flints of a new type known as rostrocarinate, from their shape; that is, they have a beak at one end, while one side is shaped like the keel of a boat, a shape which, it was claimed, could hardly be the result of natural causes. However, another distinguished archæologist, Professor Sollas, has claimed to have discovered similar shapes, undoubtedly due to natural causes, at Selsey Bill. At Foxhall, near Ipswich, Mr. Reid Moir has also found, at a depth of 16 feet in the Red Crag, a Pliocene deposit, a layer containing burnt flints, pot-boilers, bones, and flint implements for boring and scraping, which have been accepted as of human workmanship by the distinguished French authority, the Abbé Breuil. Beneath the Red Crag he has also found eoliths similar to those from the Kentish plateau gravels, but in an abraded condition. He suggests, therefore, that the Kentish eoliths may be earlier than those from East Anglia.

Technical and tedious as the discussion of the eolith may seem, it is obviously one of the greatest importance in its bearing upon the question of positive evidence for the beginning of human culture. Even if the Oligocene flints are rejected—and Professor Sollas is of the opinion that any precursor of man of that age, such as propliopithecus, the highest known ape of that age, would not be capable of their manufacture—the Upper Miocene implements found in association with extinct mammals, such as dinotherium, mastodon, rhinoceros, and hipparion, must be regarded as still in suspense; but if they should ever be proved genuine they would take us very far back in the ancestry of man, and in view of the purposive character of their shaping—for if genuine they can be classified into several categories, according to their presumed uses—they would argue for the being by whom they were made, even at that early stage, an intelligence far beyond that attained by the highest of the living apes.

CHAPTER VIII

CLIMATE AND THE PALÆOLITHIC AGE

BEFORE passing from the Eolithic to the Palæolithic period, it is necessary to consider the question of climate at this stage in the world's history. The Tertiary epoch witnessed the last of the foldings of the earth's surface, by which the mountain system has been built up. In this case it is that which produced the Pyrenæan—Alpine—Himalayan systems. It began in the Eocene, culminated in the Miocene, and gradually died down in decreasing pulsations, lasting almost to our own day. Each of the great crises in earth motion, according to the palæontological evidence, appears to have produced profound changes in the world's fauna. It is in the Alpine-Himalayan folding that man or his ancestors, birds, and mammals begin and come to play the predominant part. At the close of the Pliocene period the world entered upon the Ice Age, or Ice Ages—geologists are divided in opinion as to whether there were one or more—accompanied by several alternations in land and sea levels which modified the coast-lines to a very considerable extent. Archæologists are, on the whole, inclined to accept the view that there were four Ice Ages or periods of maximum glaciation, which are known as Gunz, Mindel, Riss, and Würm, from the localities in which they were studied, with warm or comparatively warm inter-glacial periods. So far as Great Britain is concerned, however, there would appear to have been three periods of maximum glaciation only, and it has been suggested, and this is supported by the evidence from other areas, that the first glaciation, Gunz, was a local glaciation only.

During the greater part of the Palæolithic period the climate was severe, although it began in genial conditions or, to judge by the extinct fauna in the area of North-Western Europe, possibly even sub-tropical. It is perhaps significant that human progress in this period begins and becomes more marked up to a certain point as climatic conditions become more severe, and as the game, which was man's food supply, became scarcer, either dying out or migrating to more congenial conditions. As conditions changed, man adapted himself and his culture more perfectly to the stresses of his environment in habitation, in clothing, and in the greater specialization of his tools and weapons.

The Palæolithic period is divided into successive stages according to cultures, each being named after the earliest or most important of the sites investigated in which that particular type of culture has been found. The stages are the Chellean, called after the locality on the Somme, where these implements were first found; Acheulean from St. Acheul, near Amiens; Mousterian from the Rock Shelter of Le Moustier, Les Eyziès, in the Valley of the Dordogne; Aurignacian from Aurignac; Solutrean from Le Solutré, near Macon; and Magdalenian from the cave of La Madeleine.

Each of these stations, which date in the order named, contains a characteristic example of the culture to which it has given its name. The culture itself has been found distributed over a sufficiently wide area to justify the view that it is not merely a local development, but really represents a stage in the development of the civilization of the old Stone Age.

The two stages first named belong to the Lower Palæolithic, the third constitutes the Middle Palæolithic, and the Solutrean and Magdalenian form the Upper Palæolithic. For purposes of British archæology it is worth while to remember the original classification into River Drift Implements and Cave Implements, the Chellean and Acheulean belonging to the former, and the Mousterian, Aurignacian, and Magdalenian coming under the latter category.

It may perhaps make clearer the methods of excavation and dating, as well as the succession of stages, if a typical section be given from one of the French caves, that of Laugerie Haute, in the Dordogne, which happens to be unusually complete. Beginning from the surface, and therefore with the latest in time, the cultures were as follows:

6. Robenhausian (Neolithic)
5. Magdalenian
4. Upper Solutrean
3. Lower Solutrean
2. Aurignacian
1. Mousterian.

That is to say, that in opening up the cave the first stratum encountered by the explorers contained implements of a typical Neolithic culture. Digging deeper in undisturbed earth they came upon the succession of Palæolithic cultures in the order named, with typical implements and animal remains which made identification possible, until at last, after they had dug through all the cave earth and débris of successive occupations in superposition, they reached the rocky floor of the cave. This cave is noted in the annals of archæology as that in which the relation in time of the Solutrean and Magdalenian was first fixed by the discovery of the latter in superposition over the Solutrean horizon.

The relation of the two cultures of the river gravels, Chellean and Acheulean, to those of the caves was noted in the early days of their discovery, when it was accepted that the river drift implements unquestionably antedated those of the caves.

Having then established the relation of these phases or stages of culture to one another in time, before passing on to a more detailed account of each, it is desirable to indicate their relation to the Ice Ages and the changing climatic conditions.

At the opening of the Palæolithic period, Chellean Man was living in a warm interglacial period, the Mindel-Riss interglaciation, as is indicated by, among other things, the animal remains found in association with Chellean implements in the river gravels. The climate then became colder, until the intense cold of the Riss glaciation developed. This was followed by a warm interglacial period, the Riss-Würm, which saw the further development of the Chellean industry and the rise of the Acheulean stage. As the warm period drew towards its end, Acheulean Man began to be replaced by early Mousterian Man, who, as the climate deteriorated, sought the protection of rock shelters and caves, in which he continued to live throughout the Würm period. This period was followed by a succession of oscillations, in which cold periods, though not of extreme intensity, alternated with warmer, but not warm, periods, in which the remaining cultures, Aurignacian, Solutrean, and Magdalenian, were developed. These great extensions of the Polar ice were not confined to Europe, nor even to the Northern Hemisphere. The great terminal moraines, formed by the gravels and boulders borne before them by the glaciers, are found stretching across North America, indicating that it was equally affected, while the countries of the Southern Hemisphere came under the influence of the South Polar Ice Cap. It was during this same period of violent climatic change that almost equally violent changes took place in land and sea levels. The raised beaches which are found in various parts of the coast-line indicate rises in sea-level of sometimes as much as 100 metres. These were followed by equally marked rises of the land, so that tropical and sub-tropical animals, elephants, rhinoceros, etc., crossed to England on dry land where the Channel now flows, and also crossed from Africa to Europe by a land bridge which is now under the waters of the Mediterranean between Tripoli, Malta, and Sicily.

CHAPTER IX

THE LOWER PALÆOLITHIC PERIOD

Chellean Man flourished during one of the periods when the distribution of sea and land was different from that of to-day—a fact which it is important to remember in questions relating to the origin and distribution of the human race. Tide level was then some 600 feet below that of the present day. The Irish Sea, the English Channel, and the German Ocean were broad valleys. Where now is the Mediterranean were two inland lakes; Asia was united with America, by a tract of land extending far to the south, while Europe may have been connected with North America at the Iceland level. Eastward from Britain a continuous tract of land and land bridges led almost to Australia and Tasmania, which could still have been reached by canoe. While the land was thus open to the migrations of man, all parts were equally accessible to the animals, many now extinct, which were induced to come north by the warmth of the climate—elephants of the ancient type (*Antiquus*), the soft nosed rhinoceros (*Merckii*) with a horn sometimes three feet long, the hippopotamus, and the great sabre-toothed tiger, and many another.

As has been stated more than once, the implements of Chellean Man are found in the river gravels. The characteristic type is a large, heavy implement sometimes as much as ten inches long, and roughly of an elongated pear shape. It is very carefully and finely made when the material is of flint, but much rougher when of quartzite, a less tractable material. This implement, known as a "boucher" or hand-axe, is usually found unaccompanied by any other type, and it was for long thought to be the only type made by Chellean Man; but Chellean "scrapers," roughly semicircular implements with sharpened side, are now known also to occur. The chipping shows that these two implements were carefully flaked for use in the hand and were not hafted. The Chellean industry is very widely distributed. It is found in all the continents of the Old World. It occurs over the whole of France and south of the glaciated area in England. In the north of Italy, as might be expected, owing to the proximity of ice, it is rare, but becomes more common towards the south. It is numerous in Spain and Portugal. Outside Europe it is found from end to end of Africa, in Asia throughout the south, in Palestine, Mesopotamia, and India, and it is said with question to occur in America. It is, however, necessary to repeat here a word of caution against accepting type of implement as evidence of date outside Europe.

The Chellean stage of culture passes into the Acheulean by a regular development. The characteristic implement is still the "boucher" or hand-axe, and is a development of the Chellean but of a much finer, lighter, and more trenchant form. Its edge, made so intentionally by flaking, nearly always is slightly twisted or waved. Later it becomes lanceolate in form. In the early stages of the Acheulean period the fauna are still those of a warm climate; in the later stages cold fauna begin to creep in. The mammoth (*Elephas primigenius*) with its woolly coat and the woolly rhinoceros (*tichorhinus*) appear. The climate was changing.

CHAPTER X

THE MIDDLE PALÆOLITHIC PERIOD

AT the end of the Acheulean period there comes a change in technique in the making of flint implements which may not be without its special significance. This is the introduction of the flake as the basis of the implement. In both Chellean and Acheulean industries the base of the implement is the core. A lump of flint is taken, and from it flakes are struck off until it has been fashioned to the requisite shape. These flakes, it is true, were sometimes used for small implements. With the Mousterian culture the boucher disappears, except in the early stages, and the flake takes its place. Of these the so-called Levallois flake is sometimes as much as 15 to 18 cm. in length. From the flakes various implements were fashioned, "points," tools for piercing, cutting, scraping, and sawing, side scrapers which were similar to the point but without its pointed end, and probably employed in scraping the inside of skins in preparing them for use, just as the Eskimo woman prepares skins to-day, end scrapers, notched scrapers, and awls. For the first time we encounter a weapon of offence in a lance-head with obvious notch for attachment to a shaft. This brings us to the suggestion to which the substitution of the flake for the core seems to give rise. The flake is obviously a lighter and, in view of the technique, an easier implement than the core to manufacture. But it is not merely a question of convenience; it is also a question of use. The conditions in which specimens of Chellean industry are found are not favourable to the survival of anything less durable than stone. It is therefore conjectured, on the analogy of other races of similar culture, such as the Tasmanian, of whom we have direct evidence, that the Chelleans made a liberal use of wood, especially for weapons. This has now been confirmed by the discovery at Clacton of the pointed end of a wooden spear in association with Acheulean implements and remains of *elephas antiquus,* the older elephant. The heavy Chellean and Acheulean hand-axes cannot be regarded as weapons, nor even as very efficient tools, but they seem better adapted for grubbing roots from the ground. If, therefore, it were permissible to hazard a conjecture at the mode of life of these people, it might not be inept to compare it to that of the Tasmanians and Australians, food gatherers rather than food hunters, their efforts in the latter direction being directed to the smaller game. The Mousterian is a man of more advanced type, a man in the hunting stage, who pitted himself against larger animals, for which purpose a more efficient weapon than a wooden spear was needed, and yet something lighter than a core implement.

The earliest phase of the Mousterian culture appears in a warm period, as has been already stated, both in the Somme Valley and on other sites in France, and in Germany and in Croatia at Krapina. Although characteristic Mousterian sites are found in the gravels of the river terraces and elsewhere in the open, it was in this period that man adopted regularly the rock shelters and the cave as his home to shield him from the rigour of the climate. That weather played a large part in determining his choice is shown by the preference for an aspect facing south or in a direction shielded from the wind. On the other hand, being a mighty hunter, Mousterian Man roamed far and wide, and some shelters show signs of seasonal occupation only—a common characteristic of a hunting tribe. It is possible that Mousterian Man had evolved the bolas, the South American form of lasso, in which a ball is strung at each end of a rope—at least, such is the conjectured use of two lime-stone balls found at La

Quina, which must have required considerable ingenuity to string at the end of a rope, if that use is correctly attributed to them. If any proof were needed of Mousterian Man's prowess as a hunter, it would be afforded by the numerous animal bones found at La Quina, which show the marks of saws used in cutting apart the joints and the scratches of knives in scraping off the meat.

The distribution of the Mousterian culture is a matter of considerable importance in view of its association with the remains of Neanderthal Man. They extend from Britain to the South of France, Malta, Spain, Italy, North Africa, and from the West of France to the Channel Islands, through Germany to Moravia, Poland, Croatia, the Crimea, the Caucasus, and Palestine.

The fauna of the period and the succeeding periods has become characteristically that of a cold climate. The mammoth, the woolly rhinoceros, the horse—Przevalsky's wild horse which still survives in the Dzungarian Desert—the bison, still surviving to-day in Lithuania, and, most characteristic of all, the reindeer, the musk ox, Arctic fox, and other cold loving animals which still survive in the Arctic regions. The cold was evidently intense.

Before passing from Mousterian Man we may mention a not too pleasant characteristic of which evidence is afforded by the human remains found in a cave in Krapina, Croatia. Mousterian Man seems on occasion to have indulged in cannibalism.

CHAPTER XI

THE UPPER PALÆOLITHIC PERIOD—
I. THE AURIGNACIAN

WITH the beginning of the Upper Palæolithic period and the introduction of the Aurignacian culture there also begins a new epoch in the history of man. For to anticipate what will be said later when we come to consider the physical character of man of this era, we now enter definitely on the stage of humanity—modern man. The heavy and bestial type of Neanderthal Man disappears and gives way to the so-called Crô-Magnon Man—that is, the man who in essential features does not differ from the man of to-day.

The relics of Aurignacian Man still are found predominantly in caves. His implements are still of stone, but, in addition, bone and ivory are called into use, indicating a greater refinement in taste, not because of the implements themselves but because of the needs they served, and, above all, it is now for the first time that we come upon a development of the spiritual side of man in the artistic activities, the carvings, engravings, and paintings with which Aurignacian Man satisfied some need of his soul, even if it may also have had the material end of securing a constant food supply, as some have conjectured.

The Aurignacian flint industry shows marked advance on that of the Mousterian, although in the cave of Audi, the earliest site assigned to the Aurignacian, the work is relatively poor, and still shows signs of Mousterian influence. But in the caves of Châtelperron, the next in the series, of which the characteristic implement is the Châtelperron point, there is a marked advance to be noted. But the outstanding achievement in flint of Aurignacian Man was the burin, an implement found in various forms, but of which the essential feature is the removal of a flake in such a way as to leave a sharp facet, which intersects the terminal face at a right-angle. The purpose of this implement was to score deep incisions in a hard material, bone, ivory, skin, or wood, with the greatest neatness. In the Middle Aurignacian the art of flint working reached its highest expression, and the tools show a high degree of specialization for a great variety of purposes. We have now advanced far from the generalized implements of Eolithic days. In the secondary flaking, the Aurignacian retouch, the flaking shows a great feeling of delicacy and symmetry. Here Aurignacian flintwork attains its highest achievement, and in the following period, although a new implement developed, the gravette point, a knife-like flake, the flint work began to decline. This was, perhaps, not surprising. The Aurignacian had by now evolved a great variety in tools, saw, graver, spokeshave, end and side scrapers, and drill, and no doubt used them on a still larger variety of objects of wood which have now perished. But the introduction of a new and more tractable material had no doubt diverted his attention from the working of stone. Bone, tough, yet not brittle, capable of taking a fine point, provided a more suitable material for delicate work, of which the Aurignacian was not slow to take advantage. And so we find awls of the bones of horse or reindeer, netting pins, and infrequently awls and cylindrical rods of ivory. Most noteworthy, however, is the extensive use of personal ornaments in the shape of beads of bone and ivory, or perforated teeth of animals, such as the wolf, for necklaces. It is interesting to find a set of beads in process of making from a rod of ivory or reindeer horn, and to note how the hollow in a section of mammoth ivory was skilfully utilized to save labour and material in the making of a bangle. Of the well-known activities of Aurignacian Man as artist, mention will be made later. Enough has been said to show that the advance towards modern man in Aurignacian Man's physique was fully equalled by his advance in culture.

During the Aurignacian period there would appear to have been a temporary improvement in climatic conditions. This, no doubt, corresponded with a temporary retreat of the ice sheet during the last glacial period. It is, at any rate, noticeable that stations of human occupation, for the most part Aurignacian, are now met with greater frequency in the open in the deposits known as löss or brick earth, a deposit of wind-borne dust laid down during the Ice Age and directly due to the peculiar distribution of climatic conditions of that period.

Aurignacian stations have a wide distribution in Europe, extending from Southern Russia to Western France, and from England to North Africa. The culture of these stations is homogeneous in type, though development is to be observed within the type justifying the division into Lower, Middle, and Upper. The fauna remain practically unchanged in character throughout the period and almost to the end of the Palæolithic, with, however, some variation in frequency of different species, at first primitive cattle and horses being the most abundant. The reindeer, however, soon assumes predominance, so much so that to French archæologists the period is known as the Age of the Reindeer.

Notwithstanding the number of stations found in the open, the caves still continue to be the principal source of our information relating to Aurignacian Man. In Britain the Aurignacian is well represented, especially in the well-known site of Kent's Cavern at Torquay, and in the Paviland Cave in the Gower peninsula in South Wales, where fauna, including mammoth, woolly rhinoceros, reindeer, great Irish elk, bison, hyæna, horse, and cave bear, the last two the most abundant, were found. Part of a human skeleton, known as the Red Lady of Paviland, was also found here buried in ruddle, or red micaceous iron ore, which has encrusted the bones and coloured the surrounding earth. Many implements of ivory and bone were found throughout the cave earth. The caves of Derbyshire, some of which are now in course of excavation, have produced some interesting finds, especially of the earlier phases. It is, however, in France that the classic sites of the cave period cultures are found. That part of the valley of the Dordogne around Les Eyziès is so thickly studded with caves containing prehistoric remains as to have been named not inaptly the Metropolis of Prehistory. It is here that are found the type sites of Le Moustier, La Madeleine, Laugerie Haute, Laugerie Basse, and many another which have yielded to the archæologist a rich harvest of relics, throwing a flood of light on the everyday life, the culture, and, when the relics are interpreted by comparative study, on the beliefs of early man. The caves vary in dimensions from the merest shelter under an overhanging rock to extensive caves extending for considerable distances into the cliffs which line the river and valley. The exploration of these caves was begun in the sixties of the last century by M. Lartet and Mr. Henry Christy. The relics which they brought to light were received with astonishment, and sometimes incredulity, in their day, but the investigations which have been carried on since then have revealed many even more remarkable examples of the technical and artistic skill of Palæolithic Man.

In recent years, study of the distribution of the relics of Aurignacian Man has revealed a remarkable feature in the Upper Palæolithic culture of the Central and Western Mediterranean, of which the full significance has perhaps not yet been fully ascertained. Wherever, on any given site in Europe, the succession of cultures of the Upper Palæolithic is fully represented, the succession is uniformly Aurignacian, Solutrean, Magdalenian. In North Africa—that is to say, from the Nile Valley to the Atlantic—while the Aurignacian technique is fully represented in the stone implements, it remains the characteristic culture, and the succession of Solutrean and Magdalenian is absent. The Aurignacian is, however, of a somewhat specialized type, and this character becomes more marked as time goes on; so much so that it is regarded as a localized development and is distinguished by the name Capsian, from the site of Gafsa in Tunisia. By some it is thought that the early period of this culture may even have preceded the Aurignacian in Europe. Its distinctive feature is the introduction of long thin flakes of flint. It is conjectured therefore that the Aurignacian culture of Europe is to be regarded as derivative from North Africa. The distribution of Aurignacian sites would indicate that if this is the case it penetrated Europe by way of Sicily and Italy across the land bridge which existed at that early period. It is, at any rate, clear that in the Aurignacian industry the core implement has practically disappeared, and long thin flakes of flint predominate as the characteristic basic form. It is on this ground that the Aurignacian is regarded as a development, not of the Mousterian, but of the Capsian. This view would, of course, be entirely in favour of an African origin. Whereabouts Capsian Man originated is by no means clear. It may have been in the Sahara, or it is possible that he may have come by way of the Sinaitic peninsula from Central Asia.

Two types of Capsian culture are recognized—an eastern or Getulean type, and a western or Ibero-Maurusian type. Both developed along lines to be distinguished from the Aurignacian culture, and both eventually reached Europe. In Europe the centre of the Capsian culture is Spain, which, except in the extreme north, has no true Aurignacian sites. On the other hand, the Capsian culture in Spain, still apparently true to its Aurignacian affinities, exhibits a very highly developed capacity for artistic expression, but, as will appear in the sequel, along strikingly individual lines.

Before passing to the later cultures of the Palæolithic period, it may be mentioned that the Stone Age culture of Aurignacian type is very widely distributed outside Europe. It occurs in America, in South Africa, and as far east as Eastern Asia—*i.e.*, Indo-China and Indonesia. In China a claim has been put forward for its Quaternary Age. Further, while some archæologists would relate the stone implements of the extinct Tasmanian peoples to the Eolithic industry, in type, of course, not in date, others—such, for instance, as Mr. Henry Balfour—would regard it as Aurignacian. If, therefore, the character of the Stone Age industries in these remoter areas could be regarded as a criterion of diffusion, there would seem to be reason to regard the Aurignacian as one of the periods of dispersion and splitting off from the original stock.

CHAPTER XII

THE UPPER PALÆOLITHIC PERIOD—
II. *THE SOLUTREAN*

JUST as the close of the Mousterian period witnessed a revolutionary change which involved the disappearance of Mousterian Man, so at the end of the Aurignacian period a similar, if less complete, catastrophe took place. The Aurignacian culture is superseded by a new civilization. The Solutreans appear on the European plain, emerging first in Poland and Hungary, where the Solutrean culture directly overlies the Mousterian culture. It is therefore presumed that the Solutrean culture first developed in the east, and, sweeping across Europe, occupied the hunting-grounds of the Aurignacians, who were forced to retreat before the superior weapons of the invaders, possibly to the fastnesses of the Pyrenees. The distribution of Solutrean sites distinctly suggests an invading thrust, which dominated for a time and then died away. The type site of Solutré is near Macon, and an important station in the Dordogne is Pair-non-Pair; but there are no Solutrean stations in France east of the Rhone, none in the Iberian peninsula, Sicily, Algiers, or Phœnicia, nor in the Mediterranean Province, where, as already stated, its place is taken by the Capsian. While there is evidence that the Solutreans reached England, the culture is at such an early stage as to justify the title of Proto-Solutrean, and specimens in any case are rare.

The Solutrean culture was very closely associated with the horse, and it is possible that the people may have followed herds of these animals in their migrations across the European plains. It is suggested, on a doubtful interpretation of markings on a carving of a horse's head, that a beginning may have been made in the domestication of the animal.

The characteristic mark of the Solutrean culture is the exquisite workmanship of their flint implements, which are specially adapted for weapons of offence. They employed a new technique which may have originated in the delicate workmanship of certain Mousterian implements. It reached its highest development in the Upper Solutrean. This was the method of flaking flint by pressure, a method of manufacture made familiar by the practice of some modern primitive peoples, who, by the use of another stone or a piece of bone, force from the flake minute chips of flint. This makes possible an extreme delicacy of form. In the Lower Solutrean are found comparatively primitive arrow-heads, which, however, already possess a comparatively well-developed tang for attachment to the shaft. It may be mentioned here that it was for long doubted whether Palæolithic man had invented the bow, but the evidence of carvings and paintings seems to place it beyond doubt. It has been suggested tentatively that an ivory point with split end of Aurignacian times was an arrow-point. The use suggested for the early Solutrean points may well be accepted. The efficient bow and javelin which the Solutrean flints would provide is alone sufficient to account for the complete supremacy gained by these people over the Aurignacians.

The weapon or implement which displays the Solutrean technique to the greatest advantage is the so-called laurel leaf, a name which suggests its character sufficiently closely. The workmanship of these implements was never surpassed, even by the exquisitely made flint daggers and spearheads of Denmark in the Neolithic Age. These, indeed, may represent a survival of Solutrean technique. Similar finely chipped implements are found in Egypt, probably also of Neolithic age, although their technique, as well as other evidence, has led Sir Flinders Petrie to suggest that an offshoot of Solutrean culture, starting from the main stock in the Caucasus, reached Egypt through Syria and Palestine, while the main body of Solutrean peoples journeyed westwards to Europe.

One of the most remarkable Solutrean stations is that of Predmost in Hungary, where the Solutrean horizon appears three or four metres below the surface. It is associated with rich fauna, reindeer, horse, Arctic fox, and the remains of 900 mammoths. An ivory carving of one of these animals proved their contemporaneity with man on this site, which had been doubted.

Bone and ivory continued in use throughout the period, and it is here that we find the first bone needle, pointing to a greater elaboration or at least more highly developed methods in clothing. It has already been mentioned that the characteristic technique of Solutré flint working survived in Europe and Egypt. The same technique appears in America, especially in the Argentine, California, and Mexico, where implements of the closest similarity to some of the Solutrean types have been manufactured. It is, of course, possible that this resemblance may be due to independent development.

CHAPTER XIII

THE UPPER PALÆOLITHIC PERIOD— III. THE MAGDALENIAN

At the close of the Solutrean period the Aurignacians reappear, but with a culture that has undergone a fundamental change. It has become the culture of La Madeleine. If, as is suggested, the Aurignacians withdrew to the Pyrenees before the invaders, their retreat must have afforded little material for their characteristic industry. Their work in stone degenerated sadly, but, on the other hand, there is compensation in a highly developed industry in bone, ivory, and horn. The flint implements are less elaborate, simple in style, and often lacking in finish. Thin flakes and splinters are converted, with the minimum amount of work requisite, into scrapers, gravers, drills, and other simple tools. Their use was not as weapons, but as implements for use in the manufacture of weapons. It must not, however, be concluded that the Magdalenian Age is one of degeneration. On the contrary, it attained a substantial advance. Weapons increased in number and in kind, and also became more highly specialized.

The deposits in the caves exhibit three stages, each of which shows a distinct advance in culture. The classification is based upon the development of the harpoon; in the first a harpoon which has no barbs, in the second a harpoon with a single row of barbs, and in the third a harpoon in which there are barbs on each side. Arrow-heads and spearheads show elaboration in the methods of attachment to the shaft, which is affected in a variety of ways, and they seem to have attained the principle of the toggle, whereby breakage of the spear or arrow is averted by making the head detachable in the wound, but to remain attached to the shaft by a thong. Deep grooves on some of the points have been explained as channels for poison, while other markings may be indications of ownership, or a simple script. If this were so it would be the earliest indication of the beginning of a system of writing. Though no bows have been found, naturally in view of their material, certain points too small for spearheads must have served for arrows. The spear-thrower, still in use in Australia, had been developed. A great number of these have been found in the caves of the Dordogne, carved in a single piece and elaborately decorated with engravings or sculptures. One of the best-known of Magdalenian implements, chiefly because of the discussions of its purpose, is the so-called *Bâton de commandement,* an implement of bone or ivory, of peculiar shape, with one or more perforations, for which the most probable purpose is that of an arrow straightener—a use suggested by comparison with a similar implement employed by the Eskimo.

Although the Magdalenians were still hunters, it is evident that much greater attention was now given to fishing. Not only were at least some of the harpoons used for this purpose, but the hook and line were in use. A number of curious little bone implements have been interpreted as fish-hooks. Abundant bone needles, fine and well made, have been found, which were employed in sewing the skins from which the dress was fashioned. Their slender character indicates the fineness of the work. They were drilled by a delicately chipped flint awl. Personal ornaments have been found in great variety, made from the teeth of bear, horse, and reindeer, sea shells from the Mediterranean, and even fossils perforated for suspension, as well as pendants fashioned from bone and ivory.

Enough has been said to indicate that the Magdalenian races enjoyed a relatively rich and varied civilization, which, notwithstanding the deterioration in the technique of flint work, represented in all essentials a distinct advance on that of their predecessors. So far as comparison is possible, and in matters of detail in implements and weapons, and especially in methods of the chase, the ancient Magdalenians come very close in culture to the modern Eskimo, in whom, so distinguished an authority as Professor Sollas would hold, we may see their modern representatives.

CHAPTER XIV

THE EPIPALÆOLITHIC PERIOD—THE AGE OF TRANSITION

WITH the close of the Magdalenian period, the Palæolithic Age, properly speaking, comes to an end, and we enter upon a period known as the Epipalæolithic, an age of transition from Palæolithic to Neolithic. The earliest culture of this period is the Azilian, so called from the site of Mas d'Azil, in France. It is usually associated with the Tardenoisian, named after its type station of Fère en Tardenois. A great deterioration sets in. A change in climate had vitally affected the conditions of livelihood. Warmer weather with the disappearance of the ice sheets had driven away the characteristic fauna of the Magdalenian period. The mammoth had vanished, the reindeer had retreated to the north, and the red deer had taken its place. Richly wooded forests of pine and birch had begun to take the place of the bare steppes. The teeming game of the previous age had gone and the food supply had been adversely affected.

In the Azilian industry, stag's horn had taken the place of the ivory and bone needles. All needlework and sewing is once more done with an awl. In the working of flint Aurignacian methods appear again in the scrapers and gravers and points. The characteristic implement, however, of the Tardenois is the pygmy flint, mostly of geometrical form. The Azilian industry is characterized by a flat harpoon, broad with one, or, more commonly, two rows of harpoons. The only other implements in bone are simple punches, awls, and smoothers. Teeth and shells are still used for personal ornament. The harpoons have a wide distribution, and are found in the south of France, the Dordogne, north of Spain, Belgium, and in Britain as far north as Oban.

The distribution of the Azilian flint implement is not so extended as that of the harpoon. More interesting because more difficult of interpretation is the distribution of the Tardenoisian pygmy flint, with which the Azilian is frequently associated, and with which it is generally contemporary. In the first place, it is normally found on a particular kind of terrain, a sandy heath, not of a kind to encourage vegetation. In the west of Europe Azilian stations with Tardenoisian pygmies occur at Mughem, in Portugal, in Southern Spain, the South of England, the North, especially the Pennines, and in Belgium. As the final form of the Capsian, they survive around the shores of the Mediterranean at Mentone, Sicily, Tunis, Egypt, and Phenicia, near Beyrout, while to the east they are found in the Crimea, Poland, India, and Japan. They have been found in East Africa and the American Museum of Natural History Expedition has collected typical specimens in the Mongolian Desert. A typical station at Ofnet, in Bavaria, is remarkable for the large number of human skulls which were found buried in red ochre. They were found arranged in groups like eggs in a nest, all looking towards the setting sun. No skeletal bones were found with them, and it is obvious that the body had been decapitated after death, the rest possibly being burnt on a funeral pyre.

It will be noted that the Tardenoisian implement covers a wide area, and has a very peculiar distribution not easily explicable. It would be tempting to attempt to work out lines of distribution from Central Asia, but the information at our disposal hardly warrants it yet. The utmost to which we may venture at present is that all these centres of Tardenoisian industry cannot well be contemporary; they indicate lines of migration, of which the detail cannot at present be worked out. The evidence from Central Asia points to a comparatively early date in that area. Otherwise, taking the evidence as it stands, the West would appear the most likely centre of dispersal.

Of the purpose of the Tardenoisian pygmies, little can be said, and that purely conjectural. They are predominantly geometrical in form, rhombs, trapezes, triangles, and segments of circles. It has been suggested that they were mounted with some form of cement on wood to form the sawlike teeth of some kind of harpoon. Or it may be that they were used as arrow-points for the hunting of birds and small game, for which they would be better adapted than the full-sized arrow-head. The type of country would be adapted to this kind of hunting.

The impression conveyed by the remains of the Azilo-Tardenoisian period is that of an impoverished culture. The scarcity of game consequent upon the retreat of the cold fauna, with the incoming of a warmer climate, had driven these people to rely more and more upon a diet of shell-fish. Vegetable food became more and more an important element, and remains of all kinds of nuts and seeds, acorns, sloes, hazels and chestnuts, and cherries, have been found on their sites. Barley suggests cultivation, but probably it had been gathered wild. The harpoon shows that they caught fish in addition to the shell-fish which they had gathered. In these conditions the flint industry, lacking the stimulus of the earlier hunters, was bound to decline. At the same time, notwithstanding this apparent deterioration, the culture contained the germs of progress, for the great increase in the use of vegetable food was bound, sooner or later, to lead to a rapid advance. As modern primitive peoples show, the food gatherers are on the borders of becoming the food cultivators. Seeds dropped by accident, or plants placed in the ground for storage among an observant people, who have the root of progress in them, are bound to lead to artificial cultivation. This happened in Western Europe, and when the Neolithic era opens we find the peoples of the Neolithic Age engaged in agriculture and domesticating the animals, which, in later Palæolithic times, had taken the place of the Arctic fauna, and in their wild state had formed the staple food of the population. In this phase of the Epipalæolithic period, there are already signs of the approach of those conditions of stable food supply afforded by the practice of agriculture, which are an essential condition of the advance in civilization, for which the way lies open at the beginning of the Neolithic period.

The dawn, however, is not yet, and before Europe entered upon the Neolithic phase a period of still further degradation of culture in changing climatic conditions had to be passed.

If the Eskimo are to be regarded not only as cultural representatives of Magdalenian Man, but actually as his descendants, they must have followed closely on the retreating Arctic fauna, and thus have kept in touch with climatic conditions favourable to the preservation of their characteristic civilization. On the other hand, a later remnant of a dying culture, representing a final stage of the Capsian, possibly akin to that represented at Mughem, following tardily northward, encountered conditions even less favourable, from their point of view. They maintained an existence with difficulty in the Maglemose and kindred settlements of Scandinavia and along the southern shores of the Baltic. Traces of this or a related culture are found in France and Belgium, and it is suggested in England in Holderness. Flints of Tardenoisian type survive, while there is an extended use of bone implements. Engravings suggest a possibility of a Magdalenian influence. The people lived on marshy ground and in shallow waters on platforms formed of the trunks of trees. At this period, that of the Ancylus Lake, which was formed by an elevation of the land cutting off what is now the Baltic from both the Arctic Ocean and the North Sea, a milder and moister climate prevailed. A depression of the land brought the Ancylus period to an end, and the period of the Littorina Sea followed, when the waters overflowed the land into the area of the Ancylus Lake. This was the period in which the culture of the kitchen middens flourished. Vast mounds of shells lie along the coast of Denmark, the refuse of a people whose culture is a development or, at any rate, a succession of the

Maglemosian culture. Showing close resemblance to this culture, it yet marks an advance, for the dog had almost certainly been domesticated, and the making of pottery has been introduced. Living in a hunting or collecting stage, shell-fish, fish, birds, and rarely mammals formed their staple diet. They may have devised a rude form of boat, but whether this be so or not, the introduction of pottery is a sign that while on one side they mark the final stage of degeneration from the characteristics of the great age of stone culture of the older type, on another side they had definitely taken the earliest steps on the upward grade of progress which marked the Neolithic Age.

CHAPTER XV

TYPES OF MAN IN THE UPPER PALÆOLITHIC PERIOD

Piltdown Man, Heidelberg Man, Neanderthal Man —men of the Lower and Middle Palæolithic cultures of Chelles, St. Acheul, and Le Moustier—as they retreat before the man of Crô-Magnon, are as Caliban before Prospero. No other parallel could express more adequately the contrast between the types of the earlier and later men of this prehistoric age. Crô-Magnon Man is modern man. Mousterian Man has vanished, to appear no more.

The type takes its name from the cave of Crô-Magnon, in the Dordogne, in which three skeletons were found, two male, one old, and a female. It is a common practice to use the term Crô-Magnon as a general designation for all men of this later Palæolithic period. As will appear, however, strictly speaking, this is not correct. The skeletal remains of man from the various sites extending in time from the Aurignacian to the Epipalæolithic period exhibit a great variety of type.

The true Crô-Magnon type is a magnificent specimen of humanity. In height very tall—the stature of the old man is estimated at 5 ft. 11 ins. The skull has a high capacity, 1,590 cubic centimetres, indicating a well-developed brain. In shape it is long and of a high type. The nose is relatively narrow and prominent; the brow ridges, which were so marked a feature in Neanderthal Man, are only moderate; the cheek-bones are very strong, and the chin is also very strong. A marked and peculiar characteristic, by which the type may always be recognized, and by which, indeed, its survival is inferred in the modern population of Western Europe, is that the face is very broad over the cheek-bones, but at the same time very short—in other words, it is asymmetrical.

In the Grotte des Enfants, Grimaldi, at Mentone, a different type of man has been found. In stature he is short, still long-headed, but with a lower capacity of skull than Crô-Magnon Man, the measurement being 1,375 cubic centimetres. The nose is broad and small, the brow ridges are not developed, but the cheek-bones are strong, while the chin is weak. Other skeletons found in the same district have these characters more or less marked, and on account of the peculiar character of certain features it has been suggested that here we have an intrusion of a negroid people immigrating from Africa. This would agree with the suggested immigration of Aurignacian Man from Africa; if it were not that many competent anthropologists, while recognizing the negroid characters, consider them to be merely modifications not necessarily indicative of African blood. A still further type is that known by remains from Combe Capelle in France and called by that name, which provides a marked contrast with the Crô-Magnon type, although itself well advanced. The height of the head is considerable, and it is relatively long; the brow ridges are strong; the cheek-bones fairly wide, while the mouth tends to project forward; the chin, while not so strong as that of Crô-Magnon Man, is better formed than it is in the Grimaldi type. Other skulls of this type come from Predmost, in Hungary. It has been considered to be the typical Aurignacian. Some authorities, however, would associate it with Solutré, a period which otherwise is not represented, or, at any rate, is not known with certainty to be represented, among the skeletal remains of Upper Palæolithic Man. Pending accumulation of further evidence, a certain conclusion is impossible; and notwithstanding the disadvantage of leaving the question thus in suspense, it is preferable to a dogmatic statement which can only represent individual opinion.

Still another type occurs at Solutré, which shows a very close affinity with modern Europeans. The head is high and chin fairly strong; but the skull is much broader than those already described, and the brow ridges are not strong; in stature this type is usually tall. It is to be noted that among the burials on the Solutré site is a woman with a very broad head. She may represent an early incursion of another race of entirely different type, or she may be a survival of an earlier population.

Turning now to the Magdalenian period, further varieties of man are found. Of these, one of the most famous is the Chancelade Man, a type with a fairly strong brow and long face, a long head, and a narrow nose. The distinctive feature is a very high head of a peculiar shape, which is compared to that of a boat. This type had large hands and feet and walked with knees bent. It has been compared very closely with the Eskimo skull, with which some authorities consider it to be practically identical; an interesting conclusion in view of the suggested affinity between Magdalenian and Eskimo culture.

It is hardly necessary to go into further detail in relation to the various types. From what has been said, it will be evident that by the Late Palæolithic period considerable variation had taken place in man, and these varieties were well on the way to establishing racial types, if, indeed, this had not already taken place. In no case, however, is the variation so great nor in such a direction as to cause question as to the justification for placing them all within the category of modern man. They may be regarded on the whole as more or less strongly marked and localized variants of a general type.

It is, of course, generally known that anthropologists classify skulls according to the ratio of breadth to length, and the distinction between long and broad skulls is one of the most generally used differentia of race. The skulls which have been mentioned above and the races to which they belong are long-headed, although an exception has been noted in the case of the female skull from Solutré. At the end of the Palæolithic period, or rather in the Epipalæolithic period, it is evident that a new racial element is beginning to creep in. Sporadic examples of a broad-headed type have been found, one of these with the primitive culture of Mughem in Portugal, another at Furfooz in Belgium. The peculiar collection of skulls found in the caves at Ofnet includes several that are distinctly broad, and the whole collection, in fact, on cultural as well as physical grounds, suggests considerable racial intermingling. In these broad-headed peoples it is possible that we may see the advance guard of the races which were to introduce a new culture from the east and to initiate the Neolithic Age.

CHAPTER XVI

PALÆOLITHIC ART AND RELIGION

TIME and the conditions of survival have left us no relics of the material culture of Palæolithic Man excepting those in stone or some material almost equally resistant to destruction. Of his spiritual life, his thoughts, and beliefs, no record in the ordinary sense has come down to us, and it might be said that we know nothing of them, if it were not possible for us to deduce from the material remains by comparison with modern peoples something of his thought and his feelings, his relation to his fellows and his conception of what happened to him after death.

The most remarkable feature of the culture of the Upper Palæolithic period is the evidence of the artistic capacity of early man which has been found in the caves. It is, of course, well known that many modern primitive races exhibit a considerable degree of skill in the representation of natural objects, but the artistic products of Palæolithic man far surpass anything that has yet been produced by the modern savage. Indeed, in skill, in line, in colour, and in realism, they vie with many of the products of the modern artist.

The first examples of Palæolithic art to be brought to light were the carvings on ivory and bone which were discovered in the caves in the Dordogne district by Lartet and Christy, including the famous engraving of the mammoth on a piece of ivory from a mammoth tusk. For a long time Palæolithic art was known only from these and similar engravings, but in 1879 Señor de Sautuola discovered in the cave of Altamira, in Northern Spain, a remarkable series of paintings in natural colours, mostly of bulls and bison, which subsequent investigation showed could only be the work of Palæolithic Man. Their authenticity was questioned for many years, but in 1906 their Palæolithic date was finally established by further discoveries about which there could be no question. Since then investigations in the caves of the Dordogne Valley have brought to light innumerable paintings of a similar character.

These early examples of man's artistry first appear in the Aurignacian period, and although it is possible to say that a distinct development is to be noticed in the three forms—painting, carving, and engraving—it is difficult to say with certainty which antedates the others.

There are certain peculiarities connected with the paintings which must be noted, as they have an important bearing upon the interpretation of Palæolithic art. In the first place they are situated in the darkest and least accessible parts of the cave. This would appear to rule out any idea of a decorative purpose. Further, there is not, as a rule, any attempt at grouping. Generally speaking, each painting of an animal stands by itself independently of those in its immediate vicinity. Nor, indeed, does any particular value appear to have been attached to these paintings by those who came after the original artist, for many of the paintings are superimposed on those of an earlier date, obliterating them in part. It must further be noted that the animals depicted are for the most part such as would have served man for food. The paintings of the earlier school, for, as will appear, there are two, do not represent man.

A variety of animals is depicted, but bison and varieties of deer predominate. They are executed for the most part in polychrome, red and black being the predominant colours, but some of them are in monochrome, usually red or black. The modelling is well indicated by shading in colour, but some, especially those in monochrome, show the outline only. The most striking feature is their realism. In most cases a characteristic attitude is caught with absolute fidelity. Painting reached its highest development in the Magdalenian age.

On the other hand, carving in the round is perhaps best exemplified in the specimens of Aurignacian age. Here the human form is relatively common, and a number of statuettes of females, it may be noted, have been found in France, Germany, and Austria. Special interest is attached to these ivory statuettes on account of the very distinctive character of the physique portrayed. Two types of woman are shown; one of these is tall, slender, long-limbed, with refined features, so far as these are indicated; the other, short, squat, with enormous deposits of fat over the whole body, but especially in the abdominal and gluteal regions, where, indeed, the form resembles that condition of the Hottentot and Bushman women, known as steatopygia. The hair in both cases is indicated, but while the slender type has long locks, which in their form resemble an Egyptian wig, the hair of the short, fat type suggests the closely coiled hair of the African negro. Some interesting speculations on the racial affinities of the Aurignacian peoples have been based upon these differences in physique between the two types, and it has been suggested that we may infer an African strain in the Aurignacian race. This is, perhaps, to some extent, supported by the negroid characters, which some anthropologists find in the physical characters of Grimaldi Man.

Two interesting rock sculptures found at Laussel represent the human form, both male and female. The former is known as "The Hunter" and the latter as "The Venus of Laussel." The male figure appears to be drawing a bow, an interesting confirmation of the existence of these weapons in Aurignacian times. Still further confirmation is afforded by a painting of a bison from a Magdalenian cave in which four arrows are shown in red on its flank. One of the most remarkable sculptures in relief is a horse in the rock shelter of Cap-Blanc, in which unfortunately the legs are missing. Remarkable modellings in clay of the bison have been discovered recently in the cave of Tuc D'Audoubert.

Some of the implements used by Magdalenian Man, which are decorated, show some wonderful examples of carving in the round. A dagger of ivory, of which the blade is broken off, has a handle which is a life-like representation of a goat or chamois, and there is also a very realistic representation of the mammoth serving as a handle for a similar weapon.

Engravings are found both on the walls of the caves and on implements and weapons. In addition to the mammoth, of which one of the most remarkable engravings comes from the walls of Les Combarelles in the Dordogne Valley, reindeer and most other animals of the period are represented. A well-known example is that of the grazing reindeer from Bruniquel. Outlines of fish are also found. One, which is unusual in the use of grouping, shows a remarkable idea of perspective in a herd of horses in full gallop.

At one time it was thought that Palæolithic Man had of intention avoided the representation of the human form, this opinion being based upon a supposed analogy of certain primitive peoples. For long, indeed, only one or two examples were known, very roughly executed. Of these, one was a group representing a hunter stalking a reindeer. Now, however, several other engravings have been found, which are undoubtedly intended to represent the human form, although it is not easily recognizable. Not only is the execution very rough, but the individuals appear to be wearing masks of animal-like form. The examples from Altamira of Aurignacian age have, indeed, with some justice been termed monstrous. Others, such as those from Marsoulas, of Magdalenian age, while recognizably human, are more like the efforts of the nursery than those of artists who could produce such wonderfully realistic pictures of animals.

There are, however, two other examples which throw some light, not only on the question of the representation of the human form, but also on the meaning of the art as a whole. These are a bearded and tailed figure, engraved on a piece of schist found at Lourdes, and a painting of a reindeer-like figure with horns and tail, but semi-erect and with human face, from the cavern of Trois Frères. Monstrous and fantastic combinations are not uncommon, such as a lion with three heads, a deer spotted like a leopard, another with the head of a wolf, a horse with two tails and more than four legs, and so on, which may be merely the vagaries of the artists, but, on the other hand, may really have a deeper meaning.

Various conjectures have been offered as to the meaning and object of these paintings, situated as they are in many cases so far in the recesses of the cave that they were painted by the light of fat burning in stone lamps, of which examples have been found, and often accessible only by crawling on hands and knees through low, narrow passages, and in one case, at any rate at present, by swimming through a pool under an archway. It seems at first sight difficult to conjecture why Palæolithic Man should have expended his time and energy on these paintings. Taking all the conditions into consideration, it seems improbable that they represent merely the gratification of an æsthetic sense. It is not unreasonable to assume that here we may safely apply the analogy of modern primitive people, who, whatever may be their achievement in decorative and pictorial representation, rarely do it for the gratification of artistic taste only. The masked human figures and the reindeer-like being mentioned above inevitably point to some form of ritual. The two figures are obviously wearing animal masks and are clearly intended to represent men dressed up in imitation of animals. The view has been put forward that in all these paintings, engravings, and carvings we must look for some religious or magical motive. The generally accepted explanation is that, by depicting on the walls of the caves the animals that formed their food supply, and by carving or engraving upon their weapons the animals which they intended to hunt with them, they were insuring by sympathetic magic the increase of the animals themselves and insuring their power over them. This would be the reason for representing the arrow-heads in the flank of the bison. By a representation of what they hoped to achieve they thought that they had ensured its achievement. On the other hand, the human figures no doubt represent sorcerers who were performing an animal dance, just as the medicine man of the North American Indian tribes, dressing up as a head of the game on which his tribe existed, such as the bear or bison, and leading a dance in which the action of the animal is imitated, ensures the food supply for his tribe. Attention has also been called to the resemblance of the horned sorcerer of Les Trois Frères cavern to the horned god of the Gauls and Celtic Dys. If a ritualistic meaning is to be sought for the female figures, the physical peculiarities of the stouter lady point to the idea of a goddess of fertility.

Apart from the typical Magdalenian pictorial art found in Northern Spain, examples of artistic activity of another and quite distinct school are found in other parts of that country, notably on the face of a rock shelter at Cogul, near Lerida. Here there is undoubted grouping. The human figure is very commonly portrayed. The character of this school shows a great resemblance to the hunting and battle scenes of the Bushman of South Africa. Here we see hunters chasing reindeer and cattle, using the bow, and women engaged in what is obviously a ceremonial dance around a sorcerer, who stands in the middle of their circle. The physique of the human beings displayed in these drawings exhibits certain very marked peculiarities. Both man and woman have a remarkably restricted waist, very much like that shown in the paintings of Minoan warriors from Crete. The men appear to be naked except that they wear a kind of garter or fringe around their legs below the knee. The women, on the other hand, wear a skirt reaching to the knee. The peculiar physique of the men, who are steatopygous, recalls the physique of the Bushman, and the general resemblance of this school of art to Bushman art is so close as to lead some to hold that it points to a close relation between the Aurignacian of Spain and the Bushman—that is, that they may both be derived from a common centre of migration, the Bushman surviving in the favourable conditions of his isolation in Africa until modern times.

The suggestion of a connection with the Bushman has received further support from a very curious similarity found in both Palæolithic and Bushman art; but it also occurs in Australian rock paintings. In many of the caves silhouettes of hands have been imprinted on the walls. In some cases the hand has been covered with pigment and pressed upon the wall, while in others the hand has been placed upon the wall and pigment has been blown or placed around it, leaving the outline of the hand in colour on the natural surface of the rock. These hands, both the palæolithic and the modern, exhibit a remarkable mutilation; all of them have lost one or more joints of one or several of the fingers. Various explanations of the custom have been given, among them that it is a sign of mourning.

Before passing to the next development in æsthetic activity of early man, mention must be made of some curious rectilineal engravings which are not unlike the outline of the roof of a house. Hence they have been termed tectiform. No explanation of them is as yet forthcoming, but in their conventionalized character they seem to point towards the next development in early art. This appears at Mas D'Azil, where Judge Piette found a number of pebbles painted with conventionalized designs. The designs on these pebbles were in great variety, but the larger number usually suggest an upright, with one, two, or more arms, or a derivative of such a figure. It was at once thought that we had here an early form of writing, and attempts have been made to work out an interpretation by assigning a meaning to each of the forms. It cannot be said to have been successful. Another suggestion is that they are connected with ancestor worship and are highly conventionalized representations of the human form. It is possible that this may be the case and that they are the material manifestation of an advance in religious belief on the earlier magic of the Aurignacian. It was no longer believed possible to secure an adequate supply of game by sympathetic magic only, but that by using the conventional representation of the form of an ancestor the hunter could ensure his help and protection.

That the idea of life after death was by no means unfamiliar to Palæolithic Man becomes apparent as far back as Mousterian times, when we first find evidence for reverent and ceremonial burial. Although the more primitive of the backward peoples, such as are found, for instance, among the wild tribes of the Malay Peninsula, may abandon their dead without care to the Bush, others, at a comparatively early stage, by the measures they take either to protect themselves against the ghost, or to insure the well-being of the spirit of the deceased, show that the conception of a life after death has become an article of their faith, and has taken a firm hold on their imagination. The possessions of the dead man may be buried with him to secure that the influence of his spirit, which clings to earth, may not harm the members of his family, into whose possession they would come, or more often it may be intended that they will serve as a provision for him in his future life. This is shown by the fact that food is included in the funerary offerings. Weapons are placed by him for his defence. His wives, his servants, his horse or other domestic animals, are included in his grave or are placed on his funeral pyre to minister to his needs. That these ideas were familiar to Palæolithic Man is shown by the burials in caves from Mousterian times onwards. The remains of Neanderthal Man in the cave of La Chapelle aux Saints were certainly accompanied by a ceremonial offering of implements and probably of food also, for burnt bones of joints of meat were found. One of the bodies, that of a young man of sixteen, lay resting on its right side on a carefully arranged bed of flints. The right arm was under the head and the left extended. Around the skull were burnt bones and implements, and a carefully dressed and beautifully made hand-axe lay ready to the left hand. In subsequent burials of the dead which have been discovered, orientation—that is, the regular arrangement of the body facing in a particular direction, a constant custom among primitive peoples—the custom of burying the bodies or possibly the bones in red ochre, and the dismemberment of the bodies (witness the detached skulls at Ofnet), all point to beliefs relating to the life after death which are exemplified in the funerary customs of later days.

Finally, the personal ornaments which adorned the corpse, and are found mingled with the bones, point to the belief in the efficacy of the amulet and charm which underlies the primitive use of jewellery or its equivalent.

CHAPTER XVII

CONCLUSION

In the preceding pages we have followed man in his line of descent, presumably from some still unknown ape-like creature, to his attainment of the type of modern man. We have marked his upward progress, stage by stage, from our first glimpse of the primitive food gatherer, when he has barely acquired the ability to shape material means even rudely to his ends, to the skilled hunter, well equipped with a variety of specialized weapons and implements for offence and defence, for the chase and for his domestic needs. If control of fire constitutes the first great step in human progress, the invention of the bow in late Palæolithic times is little less important as a means, by its range and precision, of securing greater certainty in ensuring the food supply. When we take leave of early man at the close of the period, he is at the point of entering upon that stage in which agriculture and the domestication of animals, by giving him an ever-increasing control over his food supply and freeing him from the constant preoccupation of the struggle for even bare subsistence, was to afford him the leisure requisite for the cultivation and enjoyment of more refined arts of life. We have seen that in art he had already achieved much, and from this achievement we have deduced some form of religious belief. Further, he had attained some conception, vague, perhaps, of the soul and of the life after death. Of the form of social and family organization evolved by Palæolithic Man we know nothing, except that it must have been of the nature common to all hunting hordes—namely, the subordination to leadership and co-operation within the group necessary when hunting game in herds or even a single head of a species dangerous to life and limb, as were many of those of Palæolithic times.

Lastly, a word as to chronology. Many attempts have been made to fix a term in years for the various phases of the early prehistoric period. These have been based upon estimates of the length of time required for the deposition of the various geological strata. This becomes pure guesswork when the rate of deposition is quite unknown, and, it may even be, the rate of deposition has not been uniform. The only figures to be regarded as in any way trustworthy are those put forward by Baron de Geer for Scandinavia, which are based upon the annual deposits laid down at the time of the retreat of the ice. From these the Azilian period is fixed at about 7,000 years ago, and the end of the last great Ice Age is calculated to be about 17,000 years ago. This would give a date of about 14,000 B.C. for the Magdalenian period. It would not be safe to hazard a date beyond this, though some would offer with some confidence a date of 50,000 B.C. for Mousterian Man and for Chellean Man a hundred thousand years.

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ARCHÆOLOGY

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ARCHÆOLOGY

CHAPTER I

HISTORICAL

THERE is only one name for the study of the material objects of the human past, and that is "archæology." Those who devote their main interests and capacities to this study are archæologists. The word is an ancient one, not one of modern composition, like entomologist or seismologist. Ancient Greek authors not infrequently used the term in describing the pursuits and characteristics of well-known men. Thucydides, after all, wrote a preliminary chapter on Archæology to his great *History*, and he must always rank as the first scientific archæologist. But in Greece no one was ever greatly interested in the past. To Greeks the present was exciting enough to keep them fully occupied, and the future was rarely without elements of uncertainty sufficient to keep most men from retrospective considerations.

As Greece grew old, Greeks began to look back, and, looking back, to inquire into the habits and manners of earlier ages. Yet, with all their curiosity, it is strange that they rarely explored periods anterior to the seventh, eighth, or ninth centuries B.C. Thucydides was almost the only writer before the Christian era who attempted to penetrate into remoter periods, and who adopted, in however simple a fashion, the correct methods of archæology.

After Thucydides we hardly meet with the same curious and investigating mind until the middle of the first century B.C. Strabo the Geographer, clear-minded, highly critical, and sceptical in outlook, used evidence that was sometimes archæological and displayed precisely that curiosity which might, had he been sufficiently interested, have led him to investigate problems on the lines of Thucydidean archæology. About two hundred years later—*i.e.*, A.D. 150—Pausanias, traveller, sightseer, collector of legends and myths, art connoisseur and curiosity hunter, voyaged leisurely round the various cities of mainland Greece and compiled the first learned guidebook ever written. His work is in no sense literary and is wholly devoid of the scientific acumen of the Geography of Strabo, but as a painstaking record of all that he saw and heard it would be hard to excel. Impartially minded, he moved slowly from place to place in a very limited area, noting, commenting, and quoting with such a wealth of fact and detail that his books remain for students of the Classics an almost inexhaustible store-house of information. He had many preferences, but few prejudices. He had the *flair* of an archæologist without archæological method; he had good taste in art and a clear eye; and he has left us more than we might have hoped for. His affection for Greek sculpture of the Archaic period has left in his books countless references of inestimable value to students of Greek art; in fact, he is almost our only repository of information on the archaic period. But he is an archæologist *malgré lui,* and that, for our purposes, is not of the highest value. Pausanias is rather an antiquary than an archæologist.

So it is with many Romans and Greeks of the historic period. Collecting works of art became the fashion in the Hellenistic period, when the Princes of Pergamum started to form libraries and galleries of art. We are told how the first private library ever formed—that of Aristotle—fell into the hands of the

Attalids, and what were its subsequent adventures; we hear how at the sack of Corinth, after the siege by Mummius, an auction was held of works of art, and how, when the price bid for one picture rose swiftly to about ten thousand pounds, the Roman General Mummius stopped the auction in alarm and confiscated the lot sold, "suspecting," we are told, "that there was some virtue in the picture which he was unable to detect." Thus collecting began early to stimulate an interest at least in the works of art of the past, and this interest, in turn, led to a search for lost, buried, or forgotten works of art for the art dealers of Rome and Alexandria. The ruins of Corinth, after Mummius had left it desolate, were for long the happy hunting-ground of looters of ancient *objets d'art et de vertu*. *Nekrokorinthia* was a Greek term which meant, simply enough, vases looted from old Corinthian graves, objects which, in age, would then have corresponded relatively with our own mediæval.

Apart from the critical use by Thucydides of archæological material, there had so far emerged nothing that could be called archæology in the modern sense. For archæology to-day is not merely a "study of the past"; the word has come to have a more specialised meaning. Archæology is a study of the past in the light, not of some of its more important material survivals, but in the light of *all* the objects, important and unimportant, that belong to that period. Therein lies the difference between the antiquary and the archæologist. The former is a dilettante who picks and chooses what interests him, studies it in the special light of his own interests, and is not necessarily deeply interested in the general implications of what he is studying or in its contributions to the general course of history. The archæologist, on the other hand, employs scientific methods of inquiry as far as he can, in order to reconstitute the complete history of the particular period or subject of his inquiry, at the same time with the fullest investigation of all possible contacts it may have with other branches of knowledge and other periods of history.

It is, on the whole, surprising to find how little the ancients knew of their earliest history or of their prehistoric periods. The eleventh, tenth, and ninth centuries in Greece were infinitely darker and more obscure than the Saxon period or the Celtic period is to us. This Dark Age was, for Greeks, filled almost entirely by one great figure—Homer. And the prehistoric period, which archæology has recently revealed to us, the great civilisation of Minoan Crete and Mycenæan Greece, was to the Classical Greeks virtually unknown. A name here and there—Minos, Rhadamanthos, Talos, and a few others—an uncertain tradition of an ancient Minoan maritime supremacy, and that was all. Here and there the authentic Minoan past obtruded itself by chance before the eyes of Greeks and Romans, only to be relegated to uncertainty and put aside as unidentified.

Plutarch tells us in his *Genius of Socrates* how a tomb at Haliartos, in Central Greece, was once opened. In it were found vases and "a tablet in bronze," inscribed in an unknown tongue. The local "Society of Antiquaries" of Haliartos, unable to make head or tail of what they had found, sent their discoveries to the great experts of antiquity in all ancient things—the Egyptians. The Egyptian priests pondered these discoveries and sent an answer which was satisfactory to the senders, but which to us, with the superior knowledge that we possess, is evasive and vague, and obviously an answer devised to disguise ignorance. They said that the writing belonged to the age of the Trojan War, and that it contained an appeal to the Greeks to study literature and philosophy instead of warfare! But we can be certain—or, in default of actual proof, it would be better to say almost certain—that the grave was a Minoan or Mycenæan grave, that the tablets were inscribed in the Minoan script, at present undecipherable, and that the vases and other objects were of the same period. For Haliartos lies in the neighbourhood of Bœotian Thebes, where examples of Mycenæan script have recently been discovered, and where many things of the Minoan and the Mycenæan periods have been found in a palace which was built in Minoan times. Thebes, and with it the great walled city of Orchomenos and the island city of Gla, have been firmly identified as the principal strongholds of Minoan and Mycenæan power in a province of Central Greece, which virtually formed a separate prehistoric state from that in the Argolid in the south, and which was the farthest northern extension of the mainland Mycenæan power.

It seems probable, also, that another similar find of Minoan inscribed tablets was made in Roman times, on the very site which was later to be identified as the greatest Cretan city of Minoan Crete. We are told in the Latin introduction to the works of Dictys Cretensis, citizen of Cnossos, whose *Trojan War* survives in an alleged Roman translation by a certain Lucius Septimius, that the originals of the history were found by chance at Cnossos. An earthquake having laid bare a tomb which proved to be that of Dictys himself, shepherds, seeking loot, searched it and found tablets inscribed with unknown letters. They were obtained by the local Roman consul and were sent to the Emperor Nero, who, "recognising that they were written in Phœnician letters," sent them for translation to experts. The result was a text which was first translated into Attic Greek and then into Latin. It survives only in the latter version.

Whatever we may think of the story, it bears a striking resemblance to that of the tomb of Haliartos. In all probability the story of the earthquake and the chance discovery of tablets inscribed in an unknown tongue at Cnossos has attached itself to the work of

Dictys. We can at least be certain that no Roman knew Minoan. Nor is it at all certain that the work of Dictys is, in fact, genuine: it may have been composed to illustrate this Cnossian story. Many scholars believe it to be such a forgery, though some have argued with great conviction that it is a survival from pre-Homeric literature about the Trojan War, and that, as such, it is of the highest interest and of decided value. Such a document might, in any case, have survived, unparented and inexplicable, but well known to be of great antiquity, and some ingenious ancient scholar could easily have attached the Cnossian story to it. But what interests us for the moment is the Cnossian story itself, which we must certainly divorce from its connection with Dictys. The very fact that Dictys was a Cnossian would have drawn the story like a magnet towards his history as a convenient prologue. But the story itself has a ring of truth. Earthquakes are all too frequent at Cnossos, tombs are numerous, and the great bulk of Minoan inscribed tablets have been found there. Here was a case of learned Romans coming into contact with an unknown prehistoric period and failing to make head or tail of it. The Romans, in fact, were not archæologists any more than were the members of the Haliartos Society of Antiquaries.

These are but glimpses of distant antiquity revealed to recent antiquity, and they are the exceptions which prove the general rule that there was nothing at all that we can call archæology in either Greek or Roman times. In Egypt, undoubtedly, the temple priests kept records that went back to an immense period, and were amply supplied with information which had accumulated throughout the ages. Herodotus himself bows before them and evidently respects their reputation for knowledge of the past. But it is one thing to be a genealogist or a Record Office, and quite another to be a scientific archæologist who, as I have said, carefully considers *all* the evidence and not some only. Written records and family trees are but part of his stock-in-trade. He concerns himself with all the countless things that make up the everyday life of a period.

With the fall of the Roman Empire, and the gradual formation through unruly and uncertain times of various Christian States that later culminated in the Orthodox Byzantine Empire of the east and the Papacy of the west, any thought of antiquity vanished and faded. Pilgrimages to the Holy Land led to the growth of a kind of Biblical antiquarianism of an illiterate and uninteresting kind, and no scholar was to be found who could even note in the simple manner of Pausanias the various things he saw. One solitary figure stands out as a fine traveller and scholar, Cyriac of Ancona, who explored parts of the Levant and Italy in the early fifteenth century, impressed with the necessity of recording inscriptions, monuments and other remains which, he saw only too well, would soon perish in the general neglect and decay of the times. Cyriac can rank as an archæologist even more than Pausanias, since he faithfully records *everything* that he saw at any given place.

With the sixteenth century antiquity had come into high favour. Byzantium, by her continuous beneficial contact with a barbarous West, had shown to Europe her accumulated glories of ancient art and culture, her manuscripts of ancient authors, and her Greek and Roman statues, jewels, and paintings. Italy was not slow to take advantage of the culture offered to her, and as early as the Fourth Crusade in 1204 had most effectively arranged the transference by force to Venice of much that Byzantium had displayed. Old Dandolo's flamboyant Holy Crusade to save Christendom was never to do more than loot Christendom's capital, but that looting, even though it was most effectively done by a body of the most barbarous soldiery of

Christendom itself, indicated to an increasingly artistic people in Italy, by the very dispersal of ancient art, that antiquity had much to teach. From the Fourth Crusade must date the earliest interest in the past which later was to flower as the Renaissance of Art. After the fall of great Byzantium to the invading Turks in 1453, travellers who had just begun to visit the city during the hundred years before its fall continued to do so after its capture, though with great difficulty and in the face of many impediments. Of such travellers a Frenchman, Pierre Gylles, can claim, without dispute, to have been the first competent student of the archæology of Constantinople. His book, published at Lyons in 1562, is a model of close and accurate observation, which few modern travellers could equal. He searched the city from end to end and noted carefully and methodically every vestige of antiquity that showed above the surface. I have no doubt whatever that, had Gylles carried out excavations, he would have done them with the maximum of competence and accuracy. His book remains to-day, after nearly four centuries, in some respects the most useful still to be found on Constantinople. Even the measurements of certain monuments that he gives are accurate to within the fraction of a centimetre.

Unfortunately, an intelligence such as that of Gylles was as rare among sixteenth-century travellers as it is among travellers of our own times, and the interest of books such as his *De Topographia Constantinopoleos* served more to excite the ambitions of the collector than the scientific tastes of the learned. Once it was known that Constantinople, Rome, and many another ancient city was built upon a soil that was rich with treasure, and that among the decaying monuments of a past age there was much still left for the adornment of the houses of the noble and the parks of the rich, there arose, as always under such circumstances, the busy swarms of looters, dealers, agents, and buyers—the whole stock-in-trade of the antique art dealer. Then began the most wholesale scraping, delving, and dismantling over the length and breadth of Italy and the more accessible regions that the history of Europe has ever seen. Ambassadors vied with each other in obtaining for influential friends the greatest number of "marbles" and "relievos." Sir Thomas Roe, His Majesty's Ambassador at the Sublime Porte, has left for us a most diverting account of his attempts to obtain, for the collections of the Earl of Arundel, certain reliefs in marble which still decorated the exterior of the Golden Gate at Constantinople. A certain William Petty was the agent of the Earl, and he and Sir Thomas made most earnest endeavours in 1625 to obtain the marbles. In the end all the intrigues and plots of the two Englishmen, which involved bribery and corruption of those in the highest quarters, were stultified by the populace of Stamboul, who rose as a man and refused to let their sculptures go. This they did, not because they in any way admired them, but merely because they thought that they brought luck and that to have them removed would mean that the luck of the city departed. In the words of Sir Thomas, "It is true, though I could not get the stones, yet I almost raised an insurrection in that part of the city." So there they remained to moulder away, and recent excavations have revealed only the most trivial fragments surviving from the twelve fine reliefs that originally stood there.

The sixteenth century had seen the growth of collectors both among princes and among ordinary men of moderate wealth. In Italy the demand for antique marbles and bronzes increased with their discovery. Many well-known works have been in collections from very early times. The Apollo Belvedere was discovered in the fifteenth century, and the Etruscan Chimæra of Arezzo, now at Florence in the Museo Archæologico, in the middle of the sixteenth. In the memoirs of Benvenuto Cellini we learn, almost for the first time, the word "grotesque," which in its original use meant, simply enough, "something found in a grotto," and the term was usually applied to cameos, intaglios, small bronzes, and terra-cottas which had been found by peasants in old Etruscan tombs. The first Etruscan tombs were found in the sixteenth century, perhaps even earlier, and there seems little doubt that their astonishing tomb-frescoes had a profound influence upon the art of the Renaissance. In fact, there is fairly positive proof that Michelangelo actually used certain unusual Etruscan types in some of his drawings,* and there is every probability that the early Renaissance type of Devil in religious scenes in Italian painting was directly derived from the deities of the underworld of terrific aspect, which are seen on the walls of any of the Etruscan tombs of the later periods (fourth and third centuries B.C.). As tourists and strangers began more and more to flock to Florence and Rome, the antiquity dealer arose once again, flourishing, as he always does, upon the ruins of past ages. Artists also bought small antiques to serve them as guides in taste or as inspirations in design.

Many books of antiquarian interest, which were intended as surveys of the antiquities of various cities of Europe, were published in the sixteenth and seventeenth centuries. In England, Camden's *Britannia* will always hold a high place, and Stow's great work on London, *A Survey of London, 1598,* had and retains a high reputation. But none ever reached the high archæological standard of Pierre Gylles' work on Constantinople. In any case, the day of *Mirabilia* was over: men were anxious to learn facts, not marvels. Guide-books and carefully annotated lists of ancient monuments replaced the Marvels and Bestiaries which had pandered to the more puerile tastes of a more Papal Middle Ages.

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* F. Poulsen, *Etruscan Tomb Paintings* (1922), p. 51.

Even the Orient began to absorb some of the curious interest in *Realien* that marked the Renaissance. Evliya Chelebi, a Turk of distinction and intelligence, has left us a curious and informing book upon the Turkish Empire under Suliman the Magnificent (1520-1566). In the course of his survey he gives us most valuable information about the monuments of Constantinople and of other places in the Turkish Empire. His accounts lack the precision and accuracy of Occidental work, but they have, nevertheless, distinct value.

The eighteenth century saw the establishment of the Grand Tour as the finishing school for English gentlemen. The great wealth of English nobility led to an increase in the collections already in existence and the formation of many new ones, resulting also in the foundation in 1734 of the Society of Dilettanti. The marbles of Lord Aberdeen, of the Marquis of Lansdowne, and of the Earl of Egremont—who was the founder of the Petworth Collection—are examples of many collections formed in the middle and second half of the eighteenth century. So, too, at the close of the century, Sir W. Hamilton at Naples began the collection of Greek vases which not only had and deserved a very high reputation, but acted as a profound influence on the decorative arts of England. Together with the first opening of Pompeii, and the discovery there of the first Roman wall-painting, there emerged a considerable quantity of ancient works of art, mostly either Hellenistic Greek or early Imperial Roman, which gave a tremendous impetus to the new styles that were germinating in Europe. The French Empire style and the decorative style of the brothers Adam in England drew almost exclusively from these new sources. Similarly, English silversmiths at the close of the eighteenth century abandoned almost completely the traditional Georgian styles, which were themselves normal developments from the lovely styles of Jacobean times, and devoted themselves to this new and striking neo-classical manner. Greek cups from Etruscan tombs served as models for salt-cellars and sauce boats. Greek palmette and acanthus and egg-and-dart designs constitute the major part of the repertoire of craftsmen of this period, in plaster work, in silver embossing, and in wood-carving.

Pompeii, Herculaneum, and Etruscan tombs were now the great fields of research, but it cannot yet be said that excavations were carried out with any purpose but that of loot and treasure. Pompeii and Herculaneum, being sites suddenly overwhelmed in clouds of ashes and not slowly silted up by the deposits of ages, called for no very scientific methods in their excavation. But, even so, much damage was done and much was destroyed that might have been preserved. A comparison of the earliest excavations at Pompeii with those now being carried out will show how much more is now being saved—as, for instance, the upper stories of houses, which nowhere exist in the earlier excavations. So, too, in the clearance of Etruscan tombs incredible damage was done. The tombs were, for the most part, exploited by small groups of looters who bought their concessions and then dug for the treasure. By the destruction or loss of what these looters considered unimportant, irreparable harm has been done. It has, in fact, only been possible in the last few years to establish approximately the chronology of Etruscan archæology, despite the enormous mass of Etruscan objects in existence. Nor has it yet been possible at all to reconstruct the Etruscan language or to understand its inscriptions, although several hundred exist. Yet during the course of these tomb robberies, recklessly carried out and hastily done, possibly some priceless bilingual inscription, and certainly much ceramic evidence of priceless chronological value, has been thrown away by the excavators, whose eyes were trained only to see fine vases, gold cups and jewels, and statuettes. So many, and certainly the most important, of the Etruscan tombs were excavated in this way that the greatest care of a subsequent generation has been insufficient to repair the errors of the earlier.

The close of the eighteenth and first decades of the nineteenth centuries saw a continuation upon more intelligent lines of the methods and aims of the eighteenth. The Society of Dilettanti had financed an important mission of architects to study and draw many of the principal buildings of Athens and Asia Minor.* Between 1764 and 1852 the Society spent £30,000 on work of this kind. Similar missions were sent by the French Academy, which had about this time begun to interest itself in ancient epigraphy and architecture. Finally, Lord Elgin, still true to the tradition of the great collectors, but yet controlled by a more scientific outlook, made the largest raid upon antiquity yet attempted, commencing in 1801. Subsequent generations have been quick to label him as vandal and to accuse him of mere looting, but he was careful in no way to endanger the buildings that he stripped of their sculptures, and he made the most scrupulous records of what was standing in the buildings before he removed his treasures. It must be remembered that at the time when he was at Athens the temples of the Acropolis were in daily jeopardy. The Acropolis itself was a Turkish fortress, always liable in times of war to bombardment and damage, even as it was in the time of Morosini in 1687, when the explosion of the Turkish arsenal within the Parthenon did more damage in a moment than the passage of time had effected in many centuries. Nor was the danger which the Acropolis suffered confined merely to war risks.

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* The superbly produced *Antiquities of Athens* and *Ionian Antiquities* were the results of these missions.

The presence of the Turk near any ancient building where the human form is depicted in sculpture, in painting or in mosaic inevitably brings about the destruction, casually but none the less deliberately, of what survives from antiquity. The sight of a human figure or a human face was always an irresistible temptation to Moslems to destroy it, either by hacking with an axe or by hurling rocks at it, or, best of all, by firing at it. A close examination of many of the surviving fragments of the Parthenon and Erechtheium sculptures reveals the clear traces of bullet marks on many of the faces and figures, and an inspection of the monuments of Constantinople alone will show how paltry are the surviving fragments of the immense treasures of Greece and Rome that once stood there.

In the early nineteenth century there were few enough places open to archæological travel and inquiry, and hardly any open to excavation. Italy was the chief centre, and gradually Italy was examined from one end to the other. Elsewhere research was of the greatest difficulty. Practically the whole of the Turkish Empire was closed to infidel scholars. Greece, apart from the visit of Lord Elgin, was a sealed book. Constantinople itself was a Mecca so inviolate that the only small piece of research ever carried out there before 1927 by Turkish favour was the clearance made in 1854 at the base of the famous bronze Platæan Monument in the Hippodrome—and this was done only because of the very favourable Anglo-Turkish relations established during the Crimean War. Elsewhere archæological research hardly existed, except in Egypt, and there it had only begun as a result of the patronage of Napoleon. Romano-British archæology was not even in its infancy. The superb Roman remains of Southern France excited little or no curiosity. Spain and North Africa were untouched; American, Indian, and Chinese antiquity were wholly unexplored.

Nor, until the thirties and forties, was any interest shown in any branch of prehistoric archæology or research. And, even so, the Palæolithic period was unknown, and the Neolithic remains of Europe given a chronology which was uncomfortably controlled by Biblical datings.

The final success of the Greek revolt against Turkish supremacy in 1829 laid the whole of that country open at last to research and inquiry. To Greeks must be given the priority, not only in genuine archæological research, but in that generous attitude to foreigners which has made it possible for the science of archæology to develop upon congenial soil. As early as 1830, and again in 1835, steps were taken by the Greek authorities to clear the Acropolis of its super-imposed Turkish accretions and to reveal unencumbered the three great buildings, the Parthenon, the Erechtheium, and the Propylæa. About the same time a great bastion which had been built by the Turks was dismantled and found to contain the main elements of the little Temple of Nike, which was, in consequence, reconstructed in the place where it had stood. Three foreign scholars—Ross, Schaubert, and Hansen—under the patronage of King Otho, contributed largely to the archæological investigation of the Acropolis, which the Greeks were then in process of beginning. Collaboration at this time between Greek archæologists and foreigners was most cordial and close. Nor has it ever declined in cordiality.

A general interest in antiquity resulted, and methods of investigation were slowly forged. Best of all, perhaps, it was soon realised that the most scientific form of record is accurate description aided by close observation. The early records of discovery published about this time in Greece are still of the highest value, as recording the first impressions of the discoverers. Ross can claim a distinction above most of the foreign scholars then in Greece by his deeply interesting account, in the manner of Pausanias, of the Greek islands, then hardly examined.

But the principal credit is due to the Greek authorities for the method in which the ruins of the Acropolis were disengaged. True, Turkish and Byzantine buildings had to be destroyed root and branch—but something, after all, had to be sacrificed. What emerged was cleared of its encumbrances with the least possible damage to the buildings themselves, and while the work was in progress innumerable fragments of sculpture and inscriptions of the very highest value were detached from the later walls and buildings. The Acropolis as it stands to-day is a model of careful and scientific clearance.

Meantime, in Italy nothing at all comparable was being done. The Roman Forum remained virtually unexcavated until 1898. Except for Pompeii and Herculaneum there was no major site available for clearance or inspection. The science of archæology as we know it to-day did not develop in Italy, but in Greece. The poverty-stricken and ill-organised democracy that emerged from the War of Independence in Greece had turned its hand almost at once to things of scientific and cultural interest. The early clearance of the Acropolis stirred the imaginations of various scholars throughout Europe to new lines of inquiry. A wider study of ancient Greek sculpture was inaugurated which, soon after, in Germany reached the level of a profound critical investigation. Greek epigraphy began on scientific lines, and the great Corpus of Greek inscriptions throughout Europe was commenced by the Prussian Academy in 1826, a work of profound scholarship and of incredible advantage to Greek literary and historical studies. The Latin Corpus was put in hand in 1863.

Prehistoric archæology in Greece itself received its first impetus from the unpretentious work of George Finlay, the historian of the Byzantine empire and of modern Greece, himself resident in Athens. By a careful circularisation of Greek schoolmasters and others throughout the length and breadth of Greece he accumulated a mass of material and of information which was destined to lay the foundations of a scientific study of the prehistoric periods of the mainland. But not until the time of Heinrich Schliemann did scientific archæology first make its début, not only as the study of the remains of antiquity, but also as a method for their discovery. Schliemann, early stirred to a study of the material remains of Greece by a scholarly reading of Homer, was among the first to realise that the Homeric poems could not be purely imaginary in so far as they described a state of society. Yet there was nothing found in Greece which could be approximated to the conditions described in Homer, and no material with which the poems could be adequately illustrated. Thus from Greek literature there sprang directly the study of Greek archæology on scientific lines, and from it gradually evolved the study of prehistoric times throughout the world, at least in their later and more civilised developments. Homer had once again proved an inspiration.

Schliemann at first attacked the problem of the discovery of the chief Homeric sites. Troy had become lost in the ramifications of an ancient controversy of which we get the echoes in Strabo, himself a Homeric critic of no mean kind. Mycenæ the Golden, on the other hand, stood known throughout the ages, with at least two great monuments, the Lion Gate and the "Treasury of Atreus," still above ground and firmly identified ever since Roman days. But Ithaca was, and still is, as elusive as the Isle of Circe, and of other principal cities mentioned in Homer we know still little enough except of Sparta —the Sparta of Helen rather than of Lycurgus.

So it was to the shores of the Hellespont that Schliemann first directed his steps. The Strabonian controversy was soon settled, and the site of Hissarlik was unquestionably identified as Troy. His excavations were the first to be carried out on strictly scientific lines. While his methods were relatively defective compared with methods which would be employed to-day, his work was so far in advance of any archæological excavation previously carried out that he ranks definitely as a pioneer. No excavator had previously paid attention either to stratification or to unconsidered trifles which had no immediately obvious interest. Schliemann not only noted everything and kept most of what he found, but he had drawings and photographs made, both of the excavations in progress and of the objects found each day. Further, the depth of each object was recorded accurately, and from the records he has left it is possible to some extent to reconstruct the stratification of the site.

Unlike most excavators, Schliemann was pursued by good luck. No doubt he had a *flair* for knowing where to dig and what part of the site to investigate more closely. Yet nothing but good luck would have preserved for him the great "Treasure of Priam," as it is called, which, during the siege and abandonment of the Second City about 1900 B.C., had been hastily stowed in a hole in the city wall. A thousand chances might have revealed it to looters in ancient times, but fortune spared it for Schliemann. Gradually he was able to elucidate the history of Troy, but insufficient collateral information made his task an almost impossible one. Since no other site of the same period had as yet been excavated, he was driven to explain what he found by the light of the Homeric texts alone. And they were not adequate to this heavy task. He identified the very ancient second city with the City of Homeric times and failed to discover that the real Homeric city was the sixth. His fault was not due to any ignorance on his part, but simply to the fact that neither Mycenæ nor Crete had yet laid before him their collateral evidence.

In 1876 Schliemann turned his attention to Mycenæ. Again his luck followed him, and the uncovering of the great Shaft-Graves in the citadel was the occasion of the finding of such treasure of gold and silver as the world had never before seen. The discovery aroused world-wide interest, and the greatest excitement prevailed throughout Greece itself. The full account of the discoveries, written from day to day, and published in his book on Mycenæ, makes most exciting reading. As at Troy, he went to his Homer and thought that he had found the very graves of Agamemnon and Cassandra. Subsequent research has shown clearly enough that he was wrong, and that the tombs belong to a period at least four hundred years earlier. But the fault was not his. He was guessing in the air, and chronology was no more fixed for Mycenæan times then than is the chronology of Ur of the Chaldees definitely known to-day. The discoveries at Ur form a close parallel to those at Mycenæ, both in the sheer weight of precious metal found and in the character of the burials. They are parallel also in that neither Schliemann nor Mr. Woolley could accurately fix the dating at the actual time of the discovery. Both cemeteries were out of relation with other knowledge. Both were *sui generis*. But just as all Schliemann's problems have now been solved and all his errors corrected, so the uncertainties of Mr. Woolley's discoveries will be straightened out as our knowledge of that very young branch of archæology, the Sumerian, increases with further additions and collateral discovery.

Many of Schliemann's mistakes were subsequently corrected by his very able lieutenant, Professor Doerpfeld, who later concluded the excavation of Troy. Even so, much has been since discovered about the culture of these periods and a final re-excavation of the parts of Troy still untouched would go far to solve remaining difficulties. This is, indeed, one of the principal desiderata of modern archæology.

What Schliemann had begun was admirably continued by Sir Arthur Evans, whose researches at Cnossos in Crete finally gave the centre of the picture of which Troy and Mycenæ were but the background and the foreground. Crete was seen to be the greatest prehistoric culture in the Ægean in prehistoric times, and the Mycenæan world its sequel on the mainland. Troy stood apart as a separate entity, related to the Cretan at times but facing rather eastwards. In the art and architecture of Crete a whole new world was revealed, the study of which depended almost entirely on material objects. Homer hinted at much, but Homer was of a later date than the Cretan hegemony. Mycenæan culture, on the other hand, was now seen to fit into its proper position as the sequel to the Cretan, and at Mycenæ the fullest illustration of Homer was at last found, by no means a complete explanation of the Homeric setting, but at least an explanation of the earlier Homeric elements.

The discoveries at Cnossos rapidly led to the exploration of other Cretan sites. Phæstos, Haghia Triadha, Mochlos, Pseira, Palaikastro, Zakro, and many smaller places were found to be other members of the Cretan culture by the explorations of a tireless group of foreign scholars, Italian, American, English, and Greek. Evans had started the ball rolling, and each further discovery helped to elucidate the next. Within a few years of the excavations at Cnossos a big stride forward was made by the discovery of a long-forgotten civilisation of immense importance in the hinterland of Asia Minor—the Hittite. The great central city near the modern Turkish village of Boghaz-Keui, an equally important metropolis at Carchemish in Syria, and slowly other smaller sites, gradually indicated a mighty and self-sufficing power in the Mediterranean background, whose influence upon Crete, Troy, and Mycenæ was manifest and important. Now, in the last ten years, the exploration of Sumerian sites has added a further stage to the inquiry, and it is clear that both the Hittite and the Cretan cultures owed something to the Sumerian. But much remains to be done, not least the deciphering of the Minoan and the Hittite scripts and the consequent understanding of many documents at present closed to us.

Greece, as I have shown, gave the first impetus to scientific archæological studies. This impetus in turn led to their proper organisation. Until about 1880 few organised facilities were available for archæologists in Greece. The magnificent museums of Athens were being slowly built up, and in some universities in Europe there arose a demand for archæological instruction. Soon there were established in Athens Schools of Archæology, to which students of the various nations could come. In Athens to-day there are Schools of Archæology of France, Great Britain, Germany, Austria, Italy and America. The movement spread further, and the various Academies of Art at Rome also began to cater for archæologists. At the present time new schools are being founded in Constantinople, where there is a German School, and the beginnings of a French and a Russian. The purpose of the majority of these schools is not instruction, but simply to offer facilities for research. Each has its own library and its own organisation, and in Greece each is allowed to carry out official excavations. In Italy, so far, this privilege is not granted, and excavation of Italian sites is allowed only to Italians. That there are enough indigenous archæologists to excavate all the numerous sites of Italy is improbable enough, but national pride was never generous to the cause of science. In Turkey, on the other hand, foreigners are now given considerable facilities for excavation, and in Mesopotamia, fortunately, the British Mandate makes excavation easy. A School of Archæology in Mesopotamia is now in process of formation, and there is in existence a similar School in Palestine, which, since the war, has done exceedingly good work. But all the British Schools are hampered, in comparison with those of other countries, by a lack of Government financial support. The Schools at Rome and Athens are given some slight official help, but that in Palestine has been deprived of it. Private subscription is in each case the mainstay of their finances, but private subscription is an inadequate background for continuous study, and affords precarious support for institutions that are of great international value.

The teaching of archæology in the universities is relatively new. There are only four professorships in archæology in England and Scotland (one in the prehistoric branch) and one in Ireland. None of these chairs are more than forty-five years old, and one was founded only two years ago. There are other minor posts for the teaching of the subject, but they are not numerous. The belief is still prevalent in some learned circles that archæology has to do only with "pots and pans," and it is solely due to prejudices of this type that the subject has not advanced in this country as rapidly as it has in Germany or Greece. Fortunately scholars now realise that archæology can contribute widely to literary as well as to artistic study, and that it is daily setting them problems in decipherment and textual knowledge of the greatest importance.

The distinction between the antiquary and the archæologist has already been outlined. There remains the more general distinction between amateur and professional archæological research, and this is admittedly more difficult and more invidious. It might be better described as the difference between authorised work carried out under the auspices of recognised learned bodies and in the main controlled by them, and private enterprise privately financed without necessarily any recognised control.

The dangers of the latter forms of activity, particularly in the field of excavation, are obvious. Sites may be spoiled, the methods employed may be hasty and unscientific, and the excavations may be carried out in such a way that much is lost or let to pass unobserved. Government measures to prevent such excavations exist in most countries, and, in the main, they are adequate; but archæological research is not confined to excavations. Misunderstood zeal can produce much in the way of museum research that is relatively valueless; ill-equipped students or amateurs may be responsible for publications that were better unpublished; evidence may be marshalled which cannot bear a careful and scientific scrutiny on the part of trained archæologists. Many books and articles are thus published by *Privatgelehrte* which reflect but ill upon the studies they pretend to encourage and assist. A resounding title may carry a book a long way into the popularity of a credulous public, particularly if it is written in an avowedly popular style. But in the professions you do not expect, as a general rule, to find a standard work on law produced by a man who has never been either a lawyer or a student of law. Nor do you expect to find the most accurate study or the most up-to-date views in a book on medicine by an author who has studied it only in his spare time as a hobby. So in archæology, while much has been done by workers who, financially independent, are thus able to devote their whole time to it, there are still many who, considering archæology as a hobby, claim to have produced standard works. The reading of archæological works, like the reading of any works of research, can be a profitable pastime to many, but the actual process of research and exploration will always be but inadequately carried out by dilettanti. Archæology is to-day as much a profession as any other, and demands a long period of apprenticeship and a close and unremitting course of preliminary study. It cannot, any more than Law or Medicine, be indulged in as a pastime with any hope of first-rate results emerging. To carry out archæological research adequately requires an equipment and experience which can only be acquired by time and training.

CHAPTER II

APPLICATION AND USES

THE results of archæological research are rarely ends in themselves. They are almost always accumulated for the advantage of other studies. Just as Papyrology hands over its material to the students of literature and philology, and as Epigraphy serves the purposes mainly of history, so Archæology subserves other interests and other pursuits. It is essentially an ancillary study.

Art.—Chief of all the activities that it aids is art; not merely the history of art, but also its production. Newly discovered works of art belonging to periods forgotten or all too little known may have a profound influence on living styles. Just as the Venus dei Medici was used by Botticelli as the model for his Venus, so, as has been previously noted, the discoveries of Greek pottery at the close of the eighteenth century and the clearance of Pompeii resulted in the formation of an entirely new style in the minor arts and handicrafts of Great Britain in particular, and of most of Europe in general. So, too, Greek and Roman architecture have left a permanent impress on all subsequent architecture, with sudden innovations that corresponded with new discoveries. But architecture is, on the whole, conservative and hesitates to adopt new styles if it can reshuffle its older repertoires. The cruder method of mere copying or imitating a style based on new discoveries, whether in art or in architecture, has less value for the advancement of taste than the employment of new discoveries as guides to new interpretations. Thus, the revelation of the massive beauty of Hittite sculpture or of the delicacy of Greek archaic statuary has served sculptors, not merely as models to copy and reproduce, but rather as guides in method and as suggestions for fresh creation, in which the new lessons are absorbed and expressed anew. It would thus be hard to conceive what the style of the sculptor Mestrovic would have been had he not admired and studied the sculptures excavated at Delphi. Nor would it be possible to imagine the art of Maillol without its background of early Greek sculpture.

The chief advantages to art of the artistic discoveries of archæology are the lessons in trial and error that can be learnt from seeing how the ancient artist solved or failed to solve the problems that he set before himself. A century ago—when ancient art meant little else than the Apollo Belvedere, the Venus dei Medici, the Venus de Milo, and a not very considerable number of inferior Roman wall-paintings and Greek vases which were wrongly called Etruscan—the inspiration of the art student was limited indeed. But now that Greek vase-painting is a separate and highly intricate subject of artistic research, and Roman wall-painting has been relegated to its proper place and the various statues fitted into an orderly development of art, it is possible for the student to choose from a vast number of examples of all periods. These extend from the fine drawings of Palæolithic cavemen to Minoan frescoes, Egyptian pre-dynastic ornaments and sculptures, and Mycenæan or Sumerian gold repoussé work; from them to the fine flower of Greek archaic sculpture and painting, and so to the summit of all Greek art—the sculptures of the Temple of Zeus at Olympia. Yet none of these examples of the fine arts were available sixty years ago, for the simple reason that they still lay beneath the soil. The student can now face his problems from many points of view. He can watch how the Minoan used his eyes and copied Nature in his designs, or how the Greek vase-painter used his mental vision instead; how the Hittite sculptor thought in solid masses and the Egyptian in flat planes; how the Palæolithic painter drew swiftly without hesitation, and how the Byzantine maker of cloisonné enamel hammered out each line with• infinite slowness and patience; how the archaic Greek made his statues with hammer and punch, and the late Roman with a running drill as his principle tool; how the third-century Greek carved superb portraits and the fifth-century Greek carved none. All such discoveries and considerations are of infinite use to the student of art, and all are derived from archæological research within our own lifetime.

Canons of Taste.—It would be presumptuous to fix upon the works of past ages to serve as canons of the taste to-day so long as any artists remain alive. But all too often this has been done. The Venus de Milo is still, in France, at least, the ideal *par excellence* of feminine beauty to many hundreds of Frenchmen, despite the fact that few Frenchwomen bear any actual resemblance to her! She persists as a canon, and can only be removed from her pedestal by the substitution of clearly superior works. But unfortunately, her pedigree on the occasion of her first appearance was so impressive that, even after it was shown to be patently false, its impressiveness is still operative. The Venus de Milo was, on the occasion of its discovery, thought to be so lovely that there could be no doubt that it was from the hand of Praxiteles himself, although at the time no work of Praxiteles was known or available for comparison. Gallic enthusiasm caused her to be sent direct to Louis Philippe with her Praxitelean label firmly attached. The subsequent discovery of a signed basis, which almost certainly came from the statue, and which was Praxitelean neither in date nor in signature, so fluttered the official dovecotes that the offending evidence was hastily made away with. Even without that evidence, it is now possible to place the statue firmly enough on grounds of style into a period sufficiently remote from Praxiteles, and to substitute for her either superior figures of Venus, like that of Cyrene (at Rome) found during excavations in 1915, or better periods of art. But old favourites are dislodged with difficulty, and it will be long before it will be possible to demonstrate the superiority of other styles and other statues. At the same time the eclipse of the once admired Apollo Belvedere is now complete, and many an old favourite has receded before the advance of better informed taste.

History.—It would require a volume to give a full account of all the additions which archæology has given to the study of history. Even for the best-known periods where literary sources are numerous and adequate there is available a great mass of archæological evidence, slowly and steadily acquired over a period of half a century, which fills gaps, adds paragraphs and solves problems, or even corrects prevalent views and necessitates restatement of them. Take as an instance the history of Sparta; previously to 1905 it was thought that the traditional severity and austerity of Spartan life was the result of a long inheritance and of institutions founded early in Spartan history. But the excavation of Sparta, which took place between 1905 and 1912 and has been continued in the last few years, has revealed, to the surprise of many, that Sparta was a luxurious and opulent metropolis in the eighth and seventh centuries, and that the severity of the so-called Lycurgan constitution was a relatively late development, necessitated by the dangers which luxury and opulence brought in their train for a dominant people numerically inferior to the subject races they controlled. In fact, the beginning of the Lycurgan puritanism can hardly be placed earlier than the middle of the sixth century. This, obviously enough, is a contribution to historical studies of the most far-reaching importance.* And there are others of equal importance. Such well-known ages as those of the Emperors Augustus and Claudius would hardly seem to require archæological assistance to illuminate them. Yet research along the Roman frontiers, on the one hand, and the accumulation of Roman inscriptions, on the other, has brought about a re-orientation of many views. The history of Roman-British times now depends more upon the material evidence than upon the texts of Tacitus and Cæsar, which are now seen to be patchy in the extreme. The excavations at Silchester, Wroxeter, Corbridge, Cærleon, Richborough, and along both the Hadrianic and the Antonine walls in the North, have added to our knowledge, not only of Roman culture in our islands as a whole, but also to what we knew of military dispositions, commercial development, foreign contacts, and departmental government.

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* J. Wells, *Studies in Herodotus* (1923), p. 39 ff.

In Italy the earliest stages that were preliminary to the growth to power of Rome are now more clear as a result of the study of Italian origins, and we can now better understand at least a century of development before Rome finally emerged as the controlling Italian power. Etruscan history, on the other hand, remains obstinately silent. This is due, not only to the absence of Etruscan literature and to the inability of philologists to translate Etruscan inscriptions, but also to the fact that the discovery of the bulk of our material for Etruscan archæology was made at a time when archæological method was non-existent. Still, the actual origins of Etruscan settlement have now been made far clearer, and we are more certain of the earlier periods of Etruscan history than of the later.

In other spheres whole chapters have been added to history. Until recently the Maya culture of Central America was virtually unknown. Now its outlines for the second, third, and fourth centuries of our era are at least roughly drawn. Early Mexican and Peruvian history have also been illuminated by archæological study of extant remains and by excavation, and the antiquity of the New World in historical times is seen to be considerable. Elsewhere a context has been given by excavation and research to peoples who previously were but names, unattached and without context. Scythians, Celts, Sarmatians, Thracians, and Macedonians were, until the last twenty years, but names that flitted through history without background or context. Now, while not wholly explained, they mean more than they did, largely owing to the attachment to them of a body of material evidence. Egypt, perhaps more than any other region, has filled out its history and added new periods to it from the prodigious mass of archæological evidence which the dry soil of the Nile Valley has preserved. For some periods it might even be said that no type of material object is absent in some form or another, and that, in consequence, the whole life of the Egyptians at those periods can be reconstructed.

Religion.—It might be thought that for things of the spirit the material discoveries of archæologists were valueless. But, as an archæologist, I would venture to suggest that, were Christianity to vanish during the coming millennium, and with it the same proportion of literature as has failed to survive from the Pagan times of Greece and Rome, yet from the ruins of Christian churches and monuments, and from the fragmentary documents surviving, it would be possible to essay a very creditable reconstruction of the Christian religion along archæological lines. The finer points of controversy and dogma would naturally escape the pick and shovel of the excavator, but the main outlines of the creed would be easily recoverable, for no religion in the world except that of the Manichees and the Hebrews has failed to record its most intricate beliefs on stone or in wood, ivory, or metal. Even where no literary record survives, as in Minoan religion, it is possible to establish, not only its deities, but also its mode of worship, its organisation, and even the purpose of its service. Hittite religion is still more clearly ascertained, for some Hittite records are written in known scripts. Naturally, the spirit and the psychology of any given religion vanish with its passing, but archæology can reconstruct its outlines, most of its creed, and all of its background of ceremony, dedication, and ritual.

Greatest benefactors of all to archæologists are the religions that enjoined upon the living the task of burying with their dead a proportion of objects which were to serve them in the other world. Even the unambitious beliefs of Neanderthal Palæolithic man enjoined something of the kind, and not until the supremacy of Christianity did the dead cease to carry with them some equipment for their subsequent life. But, even so, the absence of material equipment is as significant as its presence, for it indicates the view held by the living upon what the future life was to be like. The complete equipment of the dead in the royal graves of Ur of the fourth millennium B.C., where the entire Court of a prince or princess, handmaids, maids-of-honour, grooms and horses, royal guard, together with most of the contents of the royal or princely drawing-room and dining-room and boudoir, were buried with the royal dead, indicates the simple belief that the next life was but a repetition of this. So in the tombs of Scythian kings of the fifth and fourth centuries the immolation of complete stables, with chariots and their fittings and the royal regalia intact, shows a precisely similar view. Nor did the views on the next world change very rapidly. Tutankhamon shows no diminution in optimism or increase of an economic or niggardly spirit, which might have reduced the amount of the tax upon the living, levied by the demands of the dead. But the folly of primitive belief has contributed heavily to the extreme benefit of learning and to the general advancement of culture.

Without it our museums would be half empty and our history books devoid of illustrations.

Greeks, with greater economy, replaced the heavy ornaments of pure gold and silver which their ancestors of the seventh and sixth centuries had habitually handed over to the dead by what can only be called deceptive imitations. Gilt terra-cotta, thin gold-leaf impressions of more solid original gold coins, and an abundance of tinsel or outwardly splendid gold diadems as thin as paper, preserved the living from financial disaster during the stormier periods of Greek history, and were optimistically thought to deceive, not only the departing dead, but Charon himself. Rationalism helped largely to prevent waste, and compromises of this kind were dear to the heart of the essentially Mediterranean Greek, who rarely gives away something for nothing. A comparative study of the development of grave-ritual and of the character of grave-offerings for the dead would go far to illustrating the increase of a rational outlook upon the problems of life and death.

Rome saw the decline of tomb-offerings almost to the minimum, and it was finally brought to an end by Christianity, in whose beliefs there was little place for the fittings of this world, which were considered as a snare and a delusion and, in consequence, a positive hindrance to life in the other world. Thus, where trinkets and necklaces ranked as millstones, it was hardly likely that much would be buried with the dead. The only survival to-day of anything at all corresponding to a tomb deposit is the custom, still with us, of placing foundation deposits beneath buildings. There is little doubt that here still lurks some hint of the old Pagan custom.

Literature.—Archæology is the handmaid of literature, and cannot, in consequence, contribute towards its growth in any but the most humble ways. But it can do something. The language of Homer has received much assistance from recent discoveries in Hittite, Babylonian and Greek Epigraphy, all of which are the outcome of archæological inquiry. In other spheres complete series of records have been added to history and to literature, as in the case of the Tel-el-Amarna diplomatic correspondence between Amenhotep III. and Amenhotep IV. of the Eighteenth Egyptian Dynasty, and the Kings of Mitanni, Assyria, and Babylon, or the Cappadocian tablets, written in early Semitic, which have illustrated the language and commercial organisation of the Semitic predecessors of the Hittites in Hittite lands. The tablets of Boghaz-Keui have, in turn, told us much of the literary capacities of the Hittites in the height of their power.

The study of Greek dialects depends almost entirely, in the first instance, upon inscriptions, while Latin dialects, like Oscan, can be studied only from similar sources. On rare occasions textual difficulties of well-known authors of Greece and Rome can be corrected or elucidated from epigraphical sources or from other archæological evidence. A diverting instance occurs in a passage of Aristotle's *Ethics*. Unknown words are not infrequently understood by the discovery of other records which explain them. Commentaries like the recent editions by Sir James Frazer of Apollodorus and of Ovid's *Fasti* depend, in the last resort, upon much that is archæological, and the famous edition of Pausanias by the same scholar showed how profound and methodical was his use of archæological sources.

CHAPTER III

WORKING METHODS

THE history of archæology has been the history of a development from the unscientific method to the scientific. Just as the astrologer preceded the astronomer, and the alchemist the chemist, so the antiquary of the old style and the curio-hunter has preceded the archæologist. But it would still be rash to attempt to place archæology on the same footing as the natural sciences. Archæology has primarily to do with the activities of man, and they, all too patently, are not subject to immutable laws, but rather to probabilities. In nine cases out of ten men will always act in the same way in the same circumstances, but it is the tenth case that counts. Scientific method can never count upon human activities always reacting to the same stimuli except in so far as they are subconscious or not subject to the control of will and character, which themselves must always be diverse. But the unconscious reactions of the human mind, in so far as they occur in archæological discoveries, are a proper subject for scientific examination. So also is the natural setting of human objects and the automatic accumulation of deposits in any place where man has settled.

Excavation.—To Schliemann must be given the credit for establishing the outlines of method in excavation. As we have already seen, he was the first to insist upon the retention, during the course of digging, of all objects found, or of at least a representative selection of the minor and apparently unimportant trifles. So, too, he fixed, roughly enough, the system by which the different strata of deposit can be distinguished. But to-day many excavations are still carried out on systems which are haphazard and by obsolete methods.

No two ancient sites are exactly similar in nature. Earth accumulates over an abandoned place in different ways. Sometimes it is by the slow growth of vegetation, grass, leaves, or shrubs. Sometimes it is by alluvial deposit, sudden and repeated spate of streams and rivers, sometimes by the fall of rocks and stones from surrounding heights. Sardis, in Asia Minor, the ancient capital of Lydia, was silted up rapidly by river-sand brought by flood. Delphi was largely encumbered by rocks and earth from the overhanging cliff, which accumulated by repeated earthquakes and continual frost. The Acropolis of Athens, on the other hand, kept its fragmentary treasures below ground solely through human agency, by the repeated terracing up of slopes and by the consequent use and re-use of earlier remains as filling at later periods, and by the gradual breaking up of older buildings, partly by decay and partly through the agency of the devastations of war and their use as rubble for new builders. Mounds of the Bronze Age and Stone Age in various parts of Europe and Asia, that stand often to the height of forty or fifty feet, are built up slowly and steadily by the repeated collapse of mud-brick houses and by the retention upon a lived-on area of all the rubbish of living people and households. The process can still be seen in operation to-day in any Balkan village or Asiatic hamlet, where fires, warfare, and occasional abandonment raise the level of each newly constructed village by a foot or so. Many villages in these regions stand on eminences which are simply the relics of earlier dwellings, levelled and rebuilt on time and time again.

Great fires in the same way serve to raise the level of cities. Many parts of Constantinople and the greater portion of Salonika have risen appreciably in height as a result of great devastations by burning during the last fifteen years. For in less sophisticated communities the rebuilding of a city after a disaster is rarely accompanied by the costly process of clearance of ruins. Burnt houses are simply pulled down and the bulk of the rubbish derived from them levelled down to make a new floor. The Forum at Rome was buried to a depth of some twenty or thirty feet by the various agencies of fire, demolition, the cartage of rubbish and growth of vegetation. It may be taken as more or less axiomatic that where human agencies have been at work the rate of deposit is largest, and that—except in the case of unusual flood—where natural agencies have been at work the rate is slower and the deposit slighter. In England, as in all damp climates, the rate of vegetal decay is greater, and Roman sites not reoccupied after the Roman period may be covered with several feet of heavy earth. But the contrast of rates between natural and human agencies is clearly seen at any Greek prehistoric or Romano-British site, where against the two or three feet of upper natural deposit can be set the subsequent deep layers due to human agency. These, as I have said, reach often to fifty feet in a Greek site for a period no longer than that which Nature required to deposit the thin natural layer upon the surface.

It will be clear from these considerations that the excavator, when he commences to open an ancient site, must uncover the strata in the order in which they were deposited. Above all, he must remember that, just as they were always deposited horizontally, owing to the action of gravity, so they must be uncovered horizontally. Yet many excavators even to-day are prepared to cut into sites from the side, "against the grain," as it were, and so to work through all the strata from the side at right angles to the line of deposit instead of parallel to it. The one and only method of attack, then, must be by commencing upon the highest surface at the top of the latest stratum and uncovering the strata layer by layer until virgin soil is reached. The process can be best described as the lifting off of a pile of carpets, each of which has another beneath it, whereas to dig into the side of a site would be equivalent to burrowing into the edges of the pile of carpets. The information as to the quality and nature of the carpets, which would be obtained by so burrowing, is about as valuable as that obtained for the history of a site by cutting into its side!

So, too, the sinking of pits from the top of a site is a sketchy and insufficient method, suitable only in the preliminary trials which precede an elaborate investigation. In any case, no chronology can be established by such methods. The only reliable method is to open up a wide area, not merely a trench, and to maintain the same width, as far as circumstances permit, from start to finish.

The most delicate operation in a stratified site is the distinguishing of strata. No two strata are likely to be the same depth, and one can be distinguished from the other only by a change in the colours of the earth or by a change in the character of the objects found. The excavation of each stratum must therefore be carried out slowly, and every object of human manufacture, and all intrusive natural objects as well, must be carefully noted and classified in order that the change shall be recognised when at last it comes. So the history of the site slowly reveals itself. The unexpected is always awaiting you because archæology, as I have said before, deals with human and not natural factors. A sudden black layer may indicate a destruction by fire; a thick deposit of stones or clay may indicate a demolition of houses or the collapse of buildings. The strata below and above such deposits may be different or they may be the same, according to the decision of the inhabitants of the time to stay on the site after the conflagration or collapse, or to depart and leave it to others. Sometimes you will encounter a stratum that is completely sterile. This can only indicate a temporary abandonment of the site. The whole time unremitting observation and accurate watching are essential. No competent excavator should leave his site for a single moment as long as the workmen are still digging.

The employment of workmen who are professionally used to the pick and shovel is an essential part of a properly conducted excavation. Amateur diggers are worse than useless. For digging is a highly technical accomplishment, as anyone can see who watches for a short time the workmen engaged in the digging of drains. Amateur workmen spend twice as long as the professional, and usually get twice as exhausted in the process. I have always been impressed by the steady, continuous work of men accustomed to digging, whether they are agricultural labourers or builders' excavators. The amateur knows what he is after and is anxious always to find *things;* the professional is there merely to dig under control and instruction, and his long training usually gives him a better eye for the discovery of small objects in the soil than the amateur, who is working always with anxiety and under some excitement. The greatest need of all is always for slow and steady work that proceeds at the same pace, not for sudden bouts of furious and exhausting digging. When anything at all sensational emerges, then it is the task of the archæologist in charge to slow down the process of clearance to a mere scraping and, if the objects found are delicate, to do the clearance of them himself. Above all, nothing that has begun to emerge from the soil should ever be pulled out. It must be cleared all round in order that the circumstances of its deposit there can be established. It may be in contact with other things, it may be fragile in itself; it is, in short, like the corpse in the detective story—it must be left undisturbed until every clue that is near it has been examined.

The importance of establishing stratification with the utmost accuracy is obvious, but the results of its establishment are not always so clearly understood. The first sequel to the fixing of strata is that the relative position in depth of the objects found in the strata gives their relative position in time. It will, in consequence, be possible to trace the gradual development of types from early to late according to their position. The prototypes, clearly, will occur at the lower levels, the developed versions in the upper and later levels. Now, this obvious conclusion is one which has not definitely been used as a criterion until recent years, simply because a scientific method of this kind is not always applied, even where its use would be easy and obvious. Before Schliemann's time haphazard methods often resulted in the complete loss of any fixing of types on this sound basis of indisputable fact. Even after Schliemann archæologists are to be found who will still prefer a typology which is established by *a priori* methods. This has been done rather by those who work in museums and never leave them than by those who carry out strictly scientific field research.

The evidence of a stratification is almost as certain as scientific evidence of any kind; the occurrence of objects deposited in order of time is almost as precise as the occurrence of fossils in the rocks of various periods, with the reservation that there is always the possibility of freak types or of " sports " in anything in which the human factor is involved. But, in general, stratigraphical evidence can be taken as nearly reliable as evidence can be.

The trouble with theoretical typologies is that you can never know which is the beginning and which the end. A museum series of bronze ornaments, for example, in supposed order of development from simple to complex and from complex to decadent may be reversed. What you take for primitive may be decadent, and the supposedly decadent may be primitive. The same difficulty arises when you attempt to trace the influence of one region upon another. It is not always possible to know for certain the direction of the influence. It is often impossible to say whether the influence is *coming* or *going*. So in the case of architecture the primitive and the decadent are hard to disentangle if you have no external criterion. An example occurs in the case of the great "bee-hive" tombs of Mycenæ. According to one view, the manner of their building reached the Mycenæans in its perfected state, and in subsequent generations gradually degenerated in quality. According to the rival view, what are thought to be degenerate types are merely primitive, and the perfect examples of this style of building come at the end of the series. Problems such as this can only be decided by external evidence of a completely satisfactory kind that convinces. Otherwise the mere theories are of the type that "carry no conviction and admit of no refutation."

Sites still occupied are of great difficulty to the excavator. Your modern stratum will be deep and uninteresting, if not actually unpleasant. Damage will have been done to the site and to its stratification. The value of objects found will be more of intrinsic than external value. But one rule must always be observed. The presence of the human factor in all the deposits left by human habitation makes it rash always to depend upon the evidence of one isolated object. You may have established your strata to perfection. All may be tabulated out in order of time and of development, and then one single potsherd or one trivial object that normally occurs in, let us say, Stratum C will be found in Stratum F. Many archæologists will treat this as one would treat the same occurrence in strictly scientific inquiry—namely, as the single instance that brings the induction toppling to the ground. If I make the scientific thesis that "all leopards have spotted skins," the discovery of a striped leopard will ruin it. But, as I have said, archæology deals with the artefacts of man, and man, in his perverse ingenuity, may at times unexpectedly produce once, and once only, a thing that he does not produce again for hundreds of years. So that in archæology single objects must be weighed long in the balance before they are given the weight necessary to upset a conclusion that depends on a multitude of facts. In some cases, as in that of coins or wholly distinct objects that were certainly only produced at one particular time and bear their credentials clearly inscribed upon them, their evidential value is overwhelming, provided they were found under conditions that admitted of no doubt. But ornaments or the designs of pottery are unsafe guides in a case of this kind. Several instances can nearly always upset a conclusion in archæology, one very rarely.

One must guard, also, in excavated strata against the *intrusion* of objects of one date into the strata of another. This may happen with small objects by the medium of infiltration by water and the erosion of holes or fissures or by way of the small holes burrowed by beetles, mice, or snakes. Heavy metal objects of small size have a disconcerting habit of appearing at the most undesirable times. I once found a British button at a most respectable depth in a Hellenistic deposit.

Tombs and graves open out for the archæologist a completely different series of considerations. Here there will be no stratification, no regular deposit in order of time. A tomb or a grave is made at one fixed time, perhaps re-used or opened or robbed at a later date, but it holds no chronology of its own except by the aid of external contacts. That is why it is often so extremely difficult to date burials. Nevertheless, tombs and graves are by far the most productive in objects of any branch of archæology. The supreme examples of tombs that have yielded to the excavator not only their wealth but a whole history of the times of their makers are the tombs of Mycenæ, those of Ur, and the great burial of Tutankhamon.

In tombs, as in stratified sites, what the archæologist has always to look for is the *contacts* with other races, other regions, and other influences. An Egyptian object in an otherwise undatable Minoan tomb will give you, perhaps, the very decade when that tomb was made. Roman "Samian" potsherds in an otherwise unidentified British site will prove beyond dispute that the inhabitants were in touch with Roman culture of a fixed date.

Museum Research.—The primary purpose of modern archæological museums is not the exhibition of curiosities or the display of marvels, but the orderly arrangement of objects acquired by excavation, purchase, or donation, so as to allow research workers to make a comparative study of the material remains of past ages. Many curators, particularly in the smaller provincial museums, tend to forget that this is the main purpose of their collections, but in the larger collections it is clearly evident. Only by a ceaseless and unremitting study of what has already been found is it possible to know what to look for and what to expect in the course of excavation. No excavation is without its surprises and its unsolved problems, but these become less in number and the problems diminish in acuteness if, before the excavations have begun and after they are concluded, a close study is made of what the museums have to teach. In the exhibition of specimens excavational evidence, as well as the less reliable typological classifications, should always be given their full value.

Most of our principal museums and most museums in Europe and America afford the fullest facilities for students to handle and examine objects, provided the students are duly authorised and known to be working under proper control.

Evidence.—I have given some indication of the kind of evidence to be obtained from methodical excavation. It has its defects and its dangers, and, as I pointed out, cannot possess the complete certainty on all occasions of purely scientific evidence. But in stating a case or propounding an archæological theory archæologists often fail to observe that scrupulous care which should always be employed in any given statement of evidence. A simple rule can be followed. No evidence should be admitted in the propounding of a theory which would be inadmissible in a court of law. Legal evidence has been fixed as the clear statement by a person of what he or she saw or did or heard from the lips of the party whose case is at issue. Second-hand statments are not evidence, and what the witness heard said by someone other than the opposing party is irrelevant or inadmissible, for it is simply hearsay. Now the evidential crux comes in archæology most pertinently when an archæologist is attempting to propound a theory which depends upon evidence which he did not find out for himself at first hand. From the result of many excavations by different people an archæologist may wish to make a synthesis, from which a new conclusion emerges. The evidence that he uses may be derived from sources some of which are trustworthy, some of which are not. He must therefore strive to get what amount to affidavits from his other sources or collaborators. That is why one of the most important things in excavation is to make an exact description *at the time* of what is found and how it is found. Your report upon your excavations will thus have the value of a correct affidavit which can be used by others, for in legal evidence a well-attested affidavit is admissible. But if your report is brief and without detail, sketchily composed, and written long after the excavations were concluded, it will have no more value for the making of a synthesis than the random "hearsay" evidence of the bad witness.

Authentic statements of fact, then, are of vital necessity in every excavation and in every kind of archæological research, because upon them must be based the final verdict.

Surface Exploration.—Excavation is an expensive luxury. It is not often possible for it to be either financed or organised. But surface exploration can prepare the way for it or actually carry out work which may be in every way as valuable. The value of a general survey has been evident from the time when the "itineraries" of the Roman Empire were compiled and Domesday Book was written. Most well-organised countries now have something in the nature of an Archæological Survey, the purpose of which is to record, and if possible to protect, every antiquity still extant.

Surface archæological research can be carried out in a variety of ways. Sites can be recorded on the map, and then, at a later stage, identified. Close examination can be made of every antiquity or supposed antiquity that is visible on the surface and final judgment can be reserved for future study, for it is clear that the actual work of research cannot be carried out to its completion on the spot. Scholars like Cyriac of Ancona or Pierre Gylles were the pioneers of surface exploration. Their carefully compiled notebooks are the precursors of the Ordnance map and the Regional Report.

The proper survey for archæological purposes must be carried out methodically and by adequately equipped persons. Where accurate and large scale maps occur, their task will naturally be easier than in cases where existing maps are inadequate or unreliable, or where maps do not exist at all. It is surprising how many regions of the Near East, which of all parts is the most important for archæological research, are entirely without maps fit to use for these purposes.

To the making of maps in general and to the recording of antiquities in particular aerial photography has come as an enormous advantage. While strict cartographical accuracy is hardly to be expected from mere tracings of "mosaic" aerial photographs—that is, regions photographed upon a succession of plates, the prints of which are then combined into one large photographic version—yet the detection of ancient sites and other vestiges of antiquity is often possible from the air, when they might have escaped detection by ground surveyors. Discolourations of the soil, often invisible at the ground level, are made evident by inspection from the air, especially from a vertical view, and much has been done in this way to identify forgotten sites. A complete Romano-British town has in the last two years been thus detected near Caistor, in Norfolk, and many new sites in the Near East have been added to the map by air survey, particularly in Mesopotamia. In England a careful survey of certain regions from aeroplanes has added to our knowledge numerous minor sites, and has helped to clear up many problems that hitherto remained unsolved concerning some of the well-known and major sites. A curious pendant to Stonehenge has been detected near Amesbury in the shape of a circle, the architecture of which was originally made of wood. It has, in consequence, been rather barbarously termed Woodhenge. The circle of wooden uprights was detected by shadows and discolourations in the soil not easily visible on the ground, and subsequent excavations showed these to be the socket-holes of the wooden uprights.

But it must be realised that in every case aerial survey is engaged on the preliminaries; it may give certainty in the spotting of a hitherto unknown site, but it only gives probabilities in the details. Once spotted, the site must be examined on the ground and ultimately excavated before any conclusions as to its date and detailed character can be accepted as strictly reliable evidence. In matters of date, aerial survey can but guess, and what appears as a Roman fort may equally well turn out to be Arabic or Hellenistic, at least in Near Eastern regions. In England, many of the circular camps, usually known as British, must remain without a date until excavation has revealed their contents.

Aerial survey has come to the assistance of archæology as one of its most valuable, if one of its most expensive, allies. It can serve to discover much that otherwise might have to be searched for by repeated travel and much laborious surface research. Until a more aerial age has dawned, however, the regions that are most in need of exploration will still have to remain unexamined except by the occasional and hardy pedestrian. Places like Armenia and the Caucasus, Seistan, and Central Asia still hide secrets, the importance of which far transcend that of the smaller problems that still vex the archæology of Great Britain and the more civilised West. Expeditions like those of Sir Aurel Stein and Dr. Von Lecoq, profitable as they have proved, are at present our only means of learning about some of these closed regions.

The identification of a site which has been found in the course of a surface exploration from the air is a matter of some complexity, for sites rarely spring to the eye, unless they are of the type of the fifty-foot high prehistoric mounds to which I have previously referred in another context. Towns and villages which were not in occupation for very long are often almost level with the ground. Ploughing and denudation may have reduced their height, and alluvial deposit may have rounded off their contours. What is in reality an ancient settlement may, in some cases, look like a natural eminence. All walls and foundations will have vanished, and all obvious evidence of the presence of man will have gone. Bramble and high grass may wave over the whole site, or, still worse, "where Troy was is now the growing corn." But man is prodigal indeed in the traces that he leaves. However fleeting his residence, he contrives to leave behind him a surprising number of relics of his stay. Search among the roots of the waving corn of ancient Troy, or in the neighbourhood of any excrescence upon the surface of the earth that may fill you with suspicion, will inevitably reveal the humble potsherd, the chipped flint, the stray coin and the lost knick-nack, each of which may contain a sufficiently implicit chronology to convey some idea of the date and origin of the site. No traveller with a taste for archæology should visit what he thinks to be an ancient site without keeping what few relics he can find upon the surface. Even if they convey nothing to him, there are some who may understand them.

In all stages of archæological research, whether on or beneath the surface, photography is the most essential servant of the archæologist. Frequently it may be necessary to destroy the remains of a later age before proceeding to disengage the earlier. Photography here must step in to preserve the only record of what is removed. Economies may be practised in various directions, but the one thing in which the archæologist must be prodigal is in the use of plates. I have no space here to go into the question of the type of camera and the sort of plates or films which should be used, but I can say with certainty that only the best must be employed, and that too many photographs can never be taken. The cinematograph camera can now be added to the equipment of the archæologist, for films so taken serve other purposes than the mere adornment of a lecture; they comprise a large number of separate photographs of the subject filmed from which enlargements may be made at leisure. In a good film you have a choice of many views of one object, while with an ordinary camera you may be risking all your eggs in one basket. Colour photography, also, and even colour cinematograph films, are now available to assist the archæologist in making as complete a record as possible of what he has found.

Drawing and water-colour painting are as essential as photography. The camera is sometimes inadequate, and, contrary to what we are usually told, it is on occasion the most consummate liar, but the clear eye and the steady hand of a good draughtsman can never be surpassed. Nor should too much reliance be placed upon mechanical methods of drawing. Pantographs and other contrivances all too often miss the essence of an object so depicted, just as a mechanical copy of a statue is devoid of the natural bloom which only the hand of man can give. Draughtsmen who are also artists are alone of service to the archæologist for, in making a drawing of an object which has itself come from the hand of man, they are more able to understand its artistic qualities than draughtsmen who cannot draw without the aid of mechanisms.

CHAPTER IV

SPECIAL BRANCHES

THE archæologist must be the student of what is found by himself as well as what is found by others. No one can claim to be an archæologist in the fullest sense unless he knows not only the objects themselves, but also the different ways in which they have come down to us from ancient times. On the other hand, the archæologist whose sole task is to produce the goods and then leave them for others to interpret, is hardly an archæologist at all—he is merely a hired sleuth.

As a result of the accumulation of the remains of past ages, research workers have specialised in various branches of archæological study. Some of these studies, like Epigraphy and Papyrology, have become highly developed and largely independent studies. I will consider some of the special branches separately.

Numismatics.—The study of coinage and of the separate issues of medals which have been made by known states and cities is not wholly dependent upon archæological discovery. But, if it is not wholly dependent upon it, it is often contributory to it. Since coins are works of art, or at least of artistic ingenuity even at the lowest level, much information can be added to the artistic history of a people by a study of its coins. In coins, also, there is almost always some historical information or some allusion, political or religious. They therefore contain much and varied information. From the purely artistic point of view, as well, they mirror in a microcosm the prevailing artistic tendencies of their day, and, since they can often be arranged in a chronological order that depends upon evidence other than that of their style, they can be used to contribute to the study of style itself in art. As evidence for the illustration of contemporary life at the period of their issue, they are of inestimable value. Cults, notable events, traditions, social and political changes, and artistic achievements are faithfully recorded in their inscriptions and on their designs and the types that they bear. The standards of weight to which they conform serve also to illustrate political and commercial groupings of states and cities. But the uses of numismatics are so manifold and the information which is provided by a study of coinage is so vast and fertile that it would be idle to do more than hint at it.

Sculpture and the Fine Arts.—Greece, Etruria, and Rome, the Hittite and Egyptian empires, Sumeria, Assyria, and Babylonia, the Maya and Aztec cultures have added to our knowledge of the history of the fine arts more in the last fifty years than in the preceding five hundred. The critical study of sculpture, of metalwork, of vase-painting, and, in a less degree, of mosaic and panel or wall painting have resulted from an examination of the material accumulated. It is now possible to assign sculptures with tolerable certainty at the worst, and with exactitude at the best, to fixed periods and to masters known by name or anonymous. The same can be done in vase-painting, thanks to a particularly close and accurate study of this special branch which has developed in recent years.* With other branches of painting or fine metalwork the same accuracy and precision is not possible, chiefly since the amount of material available is not so large.

In the critical study of Greek sculpture there is naturally a deeper interest than in the study of the sculptures of other lands and of other periods, since in Greek sculpture we have the finest flower of all Greek art, and there is an abundance of material. The methods used to establish the date or mastership of a given piece are various, and there is as yet no unanimity in what is the best procedure to adopt. In the main, personal judgments of style are more common than objective proofs of date and manner. In some instances the place of origin, the attached inscription and the technique and style, all make an attribution certain beyond cavil or dispute, but there remains a vast mass of sculpture to which is usually applied the *ex hypothesi* tests of an expert. The expert, unfortunately, is fallible unless he can adduce proof of the most cogent and convincing objective kind, and consequently there remains in the study of Greek sculpture room for ample, and all too often superfluous, conjecture.

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* The pioneers in this work are Prof. J. D. Beazley, the late Mr. J. C. Hoppin, Dr. Langlotz and Prof. Buschor. Their works on vase-painting should be consulted by students studying this branch.

Nor can sculpture be judged by the same standards as painting: it is a different art, in which the eye and the hand are used in a wholly different way. In sculpture the artist's vision remains steady over a long period of time; in drawing and painting he works swiftly at the command of a transient emotion. You cannot, then, isolate in statues the same elements that you isolate in painting in order to establish the style of one particular artist. The style of Praxiteles may be hard to reconstruct, but you will not recover it by a measuring of noses or a counting of hairs on the head. For the swift hand of the painter clings the more easily to conventions and to little habits and foibles because of its very swiftness. The quick draughtsman tends in his speed to resort to graphic "shorthand," and it is in the private "shorthand" that we detect the personality of the artist. The methods of Morelli laid a sound basis for all critical study of painting. In sculpture there is no "shorthand" because the artist moves slowly, sometimes at a snail's pace, and the need itself for abbreviation in design is not evident. Consequently, in the fixing of master hands and in the attribution of unsponsored statues other methods must be employed. Unfortunately no scholar has yet come forward with a method, and we are left with the application of technical considerations on the one hand and with judgments based on a consideration of style on the other. Of these two the former is the more satisfactory.

Even more hazardous in the study of Greek sculpture is the reconstruction of the style of a master from whose hand no original survives, based upon the evidence of a series of copies made from lost originals. Here Platonic "opinion" is despotic indeed, and "shadows of shadows" are the material! It is, indeed, a flowery pasture for amateurs. But a critical eye and a cool brain can achieve something. The more fertile study of Greek sculpture is found in the archaic period when technical methods were high and production was slow and careful. Our knowledge of it is considerable, since we have for the archaic period nothing that is not original work. And our wealth of first-hand material continues until the early part of the fifth century B.C. But for the men who ranked as the most famous sculptors of the fifth, fourth, and third centuries we have a pathetically small supply of first-hand information. Nothing survives certainly and directly from the hand of Myron, Pythagoras, Kalamis, Pheidias, Polycleitus, or Cephisodotus (to mention a few names only), nor are the originals attributed to the hands of Praxiteles and Lysippos universally accepted as such.

With Roman and Etruscan sculpture we are in an even worse plight, but the bulk of material is there to instruct and to inspire, and the work that can be done upon it is endless. The study of Greek sculpture is backward in comparison with what has been accomplished in other branches of archæological research, although the amount of literature published upon it probably exceeds in bulk that compiled on any other branch of ancient art.

Prehistory.—In extent the study of the prehistoric periods is prodigious. It is in consequence sub-divided into many branches. The Palæolithic Period, with its high artistic and anthropological interest, absorbs much activity, and the Neolithic and Bronze Ages attract a widely different group of scholars; but for all the prehistoric periods from the Eolithic to the Iron Age excavation is the principal guide and almost the only producer of reliable material. Under the Bronze Age there have to be included most of the great cultures that preceded the first millenium before our era, as well as the cruder struggles of semi-barbaric folk on the outskirts of Europe and in other continents. Prehistoric antiquities are therefore classified into groups, at least in the European and Asiatic spheres. Ægean, Italian, Central European, South Russian, Caucasian and Anatolian are some of the temporary expedients for the organisation of prehistory, and these groups are in turn sub-divided. Mesopotamia and India form two recent non-European groups.

In each group the study of ceramic is of supreme importance, if only for its chronological value. In each the value of evidence must always be most rigidly considered and most carefully examined. With prehistoric objects more than any other the absence of context renders the object almost valueless, assuming that it is devoid of artistic style or character. Stone axes, bronze weapons, or simple pots may have a certain interest or beauty of their own, but without connotation they lose most of their importance. A prehistoric artefact shorn of its context becomes a mere object, but if its place of finding is known its evidential value increases as its interest grows. If the depth at which it was found and the objects associated with it are recorded, it at once takes its place as a *docu-*

ment in the fullest sense of that term. That is why the antiquarian who in the past merely collected or noted inadequately can now contribute little to the steady growth of the scientific study of prehistoric times. The first solid attempt to classify, to collect all available data, and to draw cautious conclusions from evidence made in the study of the prehistoric periods of the British Isles was the publication by Sir John Evans of two epoch-making works upon the stone and bronze weapons and implements of Great Britain and Ireland.* In these works he accumulated from all sources the evidence that had so far been made available, and in doing so he constructed a valuable synthesis of the scattered records and stray accounts left by several generations of antiquarians. These two important works still remain in some sense textbooks, and constitute a solid archæological piece of research.

From solid work such as this, which at once promotes a further step forward in the study of regional archæology, there almost always emerges some new knowledge which is the stepping-stone to further discovery. Recent inquiry into the Early Iron Age of Europe has in this way led to the identification of remains in Britain which can be equated with European Iron Age periods. The evidence used has in part lain unidentified in museums, and the new additions to knowledge have made it possible now to give a date and setting to what hitherto had remained unfixed. A similar instance may be found in the light thrown upon Mesopotamian archæology by the discoveries on prehistoric sites in India. Among the mass of objects excavated at Mohenjodaro and Harappa in Sind were certain cylinder-seals inscribed with unknown characters. Similar seals have now been identified in the remains from Mesopotamian sites, among which they had been recognised as intrusive and left unclassified. In the same way a fine Cretan bronze statuette had for many years been relegated to the cupboards of the British Museum and labelled " suspect " until the discoveries in Minoan art made it possible to identify it without hesitation as genuine Minoan. Recent work on Central European antiquities in the region of Transylvania has at last enabled archæologists to isolate specific Transylvanian types of gold-work, many of which had hitherto been given but the vaguest classification.

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* *The Ancient Stone Implements, Weapons and Ornaments of Great Britain*, 1872 (2nd ed. 1897), and *The Ancient Bronze Implements, Weapons and Ornaments of Great Britain and Ireland*, 1881.

This process of gradual building up of stepping-stones for further advance is, after all, the main method of prehistoric studies, and, as such, it is a strictly scientific method. In fact, scientific methods are more applicable to the early prehistoric periods of archæology than to the historic or to the later prehistoric, since man, with increased sophistication, behaves with less ordered regularity in his modes of making and acting, and the inferences to be drawn from his material remains are, in consequence, less reliable and more frequently upset by the contrary instance. As the human mind grows in ingenuity so it advances in eccentricity. Tradition fails as invention grows, and it is precisely upon the endurance of traditional styles and methods that many of the premises of archæological arguments are based.

The prehistoric periods are to many the most attractive because they may open the widest fields of speculation. Nor are they encumbered by too vast a mass of philological or literary adjuncts. As a result they attract some who see a greater ease of accomplishment and a greater possibility of achievement; but, in so far as they do this, they are delusive, for in no branch of archæology is there greater need for precision and accuracy or for controlled speculation. No student is likely to produce first-class work in prehistoric periods who has not first passed through the rigours of the historic. Nor can a simple enthusiasm for the unrecorded past replace the advantages which a study of literature and language gives to those who examine the recorded. Classical scholarship is as necessary an equipment for the research of any period of Greek and Roman archæology as the knowledge of hieroglyphic and cuneiform for Mesopotamian and Egyptian. To discover things which you cannot interpret is a result of mere ignorance rather than a disappointment provocative of sympathy. The study of pre-history is a vast and sometimes unwieldy pursuit, nor is it possible here to give more than the briefest outlines of it. But in results it has been, in the last fifty years, by far the most productive of all studies and the most contributory to the knowledge of the evolution of man and the culture that he develops.

Egyptology.—The study of the remains and antiquities of Egypt form a separate branch, mainly for the obvious reason that they cannot be amalgamated easily with other branches of research. Egypt was a coherent entity and a self-supporting state in a very remote antiquity, and her history has been continuous. When the rest of the known world was passing through what we term "the prehistoric periods," Egypt maintained a steady culture, and when most of Europe and Asia, with the exception of Sumeria and Crete, were relatively barbarous, Egypt was tolerably civilised. To place early Egyptian archæology, then, among the prehistoric periods would be to classify it wrongly. Hence the term "Egyptology." As our knowledge increases it will be equally necessary to segregate the studies of "Sumerology," "Hittitology," and "Minology," though fortunately these cumbrous terms are hardly likely to be employed. Although the literature of Egypt is negligible in quality, there is enough of it, and the study of hieroglyphics is both learned and important. The process by which the decipherment of hieroglyphs was accomplished, first by Thomas Young and later by Jean Champollion, between 1814 and 1832, is a chapter in archæological history of the liveliest interest. As a study in how to decipher unknown scripts, the accounts left by Young and Champollion of their methods will remain a classic.

Egypt with its drifting sands and its intensely dry atmosphere has left to the excavator the most complete record of its daily life that can be found in any country. The exceptional sites of Pompeii and Herculaneum alone provide rival instances. The knowledge we have, then, of Egyptian life is for some periods complete. As a preliminary training in how to use material, Egyptology should naturally provide the finest imaginable school, and any archæologist who has this advantage is indeed fortunate.

Papyrology and Epigraphy.—These two highly specialised studies are the outcome of archæological research and dependent on it, but each has developed into a learned study, contributory in the main to literary and recorded history rather than to artistic or scientific knowledge.

Papyri, which were in antiquity mainly kept in rolls, have been found, as such, complete and intact only among the ashes of Pompeii. But even so they were entirely carbonised, and the complicated process of their unrolling has not resulted in their satisfactory decipherment. The only other occurrence of papyri or similar material has been in the rubbish heaps of Egypt and Central Asia, where the absence of humidity in the soil has preserved large and important fragments. From these fragments much has been learnt of lost literary, historical, and scientific works, but the knowledge is in any case only fragmentary, as are the papyri. But for a study of contemporary script and calligraphy, of phonetics and philology, papyri have provided ample material.

Epigraphy is concerned only with writing inscribed on more durable material, which can survive the vicissitudes of climate. Inscriptions on stone, bronze, and occasionally wood, and the writing drawn, painted, or scratched on pottery or brick, come under the category of epigraphical study. Upon the basis of epigraphical research has been largely built up the classification of dialects of Greek and Latin, the study of cuneiform, and what small knowledge we may possess of obscure tongues, such as Iberian, Gaulish-Celtic, and Lydian, to mention only a few. The processes of epigraphy are numerous, but the principal is the establishment of a comparative study of alphabets and syllabaries. The growth and evolution of letters once fixed, there is available a chronological test for the date of any given inscription whose letters belong to such known groups. Epigraphy can thus serve as an independent means of dating architectural or archæological contexts. But there is always the risk that late inscriptions may be cut on early buildings or that old inscriptions may be incorporated in later buildings. It is in such cases as these that the archæologist and the epigraphist must collaborate with caution and circumspection.

Detection of Forgeries.—The continuous and steady research always being carried out by the staffs of large museums contributes as largely to archæological knowledge as any other source. Comparative study by itself, in science as in art and archæology, leads always to valuable results, but museums base their comparative studies also upon the knowledge given to them by excavations.

Since many illicit excavations are always in process of being carried out, and since the products habitually reach the market, there is always a steady flow into museums and private collections of antiquities of great value and importance which are, in almost every case, literally torn from their context. The more important the antiquity the less likelihood there is of its origin being made known. Indeed, there is the more chance of it being deliberately given by the vendor a false context and origin, for the discovery by the authorities of the surreptitious discoverer will lay him open to punishment. Thus a statue secretly exported from Greece may be said by the ultimate vendor to come from Italy or Turkey, since the announcement of illicit traffic in antiquities in any given country or area may increase official vigilance and so hinder further enterprise. Archæologically, such antiquities have only an intrinsic value, for they connote nothing. Consequently, it is only in works of art or of fine craftsmanship that the illicit excavator traffics, and, as a corollary, any illicit antiquity the place of origin of which is openly stated is at once suspect of being a forgery. In any case, what the vendor says is not and cannot, by the wildest stretch of imagination, be considered as evidence. It is, in fact, in most cases, not so much what the vendor says, for the vendor is usually a dealer in a large way in one of the European or American capitals, but what the original finder told the first middle-man, and what he handed on to the next, and so what the ultimate vendor tells the purchaser. Now this, as evidence, would not pass the scrutiny of the most lenient magistrate in a police court. It is not even " what the soldier said," for it is half a dozen times removed from the original source, and even that is tainted. Antiquities without pedigrees must therefore always remain suspect of being forgeries unless they carry their own intrinsic credentials, and to inquire into these is the principal task of the experts of museums. For in this task the museum-worker is more highly qualified than any other, in that he acquires, by long usage and continuous practice, a perception for style, form, and material that cannot be in the possession of any but the connoisseur, who is himself engaged in virtually the same work. The products of the ordinary forger are, therefore, in the last resort left to the judgment of museums, which is only on occasions fallible.

But just as the forger works in silence and secrecy, so does the expert. To publish, in the demonstration of a forgery, the exact reasons why any given object is supposed to be a forgery is to give the forger a gratuitous lesson for the improvement of his art. At times it is all too foolishly done, but, as a rule, an object is condemned for reasons which, while valid enough, rarely get into print, and so into the hands of the forger.

Of forging one generalisation can be safely made. No type of antiquity, the surface of which is likely to be affected by the passage of time, can ever be successfully forged. Thus Palæolithic, and to some extent Neolithic, flint implements, all objects of bronze from life-size statues to small ornaments, some kinds of stone and marble, and in some cases silver, can never be successfully forged simply because the patina, which time alone can give, cannot be copied, imitated, or induced. This is to give away no secret, for all forgers are continuously engaged upon attempts to copy patination, and hardly ever with success. But just as the surfaces of bronze and stone undergo a chemical change by the action of the atmosphere or the soil in the process of time, so certain materials are unalterable and suffer no change save that of attrition. Gold is, of course, the typical instance, and that is why there are more forgeries in gold than in any other material. Its intrinsic worth, also, enhances the value of the object made from it, and, as a material, it is more easy to handle. Because of its high value in proportion to its bulk, it forms one of the most profitable investments. A statue is hard to conceal, but a gold ornament is easy to convey. Hence Etruscan gold jewellery, Scythian and Sarmatian gold and gold coins are frequently forged. The "Tiara of

Saitarphernes" is a notable instance. Silver is, as a rule, less easy to forge, since ancient silver is usually either corroded or patinated, and, even if it is neither, has usually gone through a process of crystallisation internally which is at once perceptible under the microscope.

But in the case of ivory, some kinds of stone and marble, and, more rarely, wood, forgery is easy. Limestones, coloured marbles, conglomerates, and brecchias acquire no patination. Parian and Italian marbles retain their surfaces, as a rule, unchanged, but the surface of Pentelic marble usually oxidises through the presence of iron and the patina so acquired cannot be forged. Wood and ivory merely decay, and a decayed surface is easily forged by the medium of acid or brushing with a metal brush. Ancient glass, on the other hand, can never be forged at all, since time gives it a corroded surface which is perceptible as strong iridescence, and this no chemical or other invention has yet been able to reproduce. But in all the unforgeable materials the passage of time must be considerable to produce the protective surface. Some fifteen centuries is the minimum. Thus Renaissance bronzes and glass, Romanesque and Italian sculpture and many other more recent periods of art are successfully copied by the professional forger.

Coins in gold and silver of all ancient periods are more liable to forgery than almost any other antiquities, and few collections have successfully avoided the forger's products. This is mainly because the internal structure of silver coins cannot easily be examined without damage to the specimen, and because in the case both of gold and silver the surface attrition, which is to be expected even in small degree on all coins, can be easily faked. One famous coin-forger used to put his latest batch of coins loose in a bag and attach the bag to the axles of the carriage in which he took his daily ride; others have been known to put them in the crop of a turkey. This in brief time gave to the coins precisely the same wear and tear which continuous handling in commerce would in reality have given them in the course of years. But no successful coin-forgery can be attempted except by the aid of properly cut dies, and it is to the indigent artist that the finest forgeries can always be attributed. The combination of an artist, an expert with archæological knowledge and a cunning dealer presents to the collector a most formidable association for acquirement of his wealth!

CHAPTER V

THE PRESENT AND FUTURE

General interest on the part of the public and a gradual decrease of prejudice on the part of library students and scholars has led both to the preservation and better care of extant antiquities which cannot in their nature be transported to museums, and to a greater appeal to archæologists for assistance and evidence. The mediæval and Renaissance tradition that scholarship should be confined *exclusively* to studies and carried out by the aid of midnight oil and book- or manuscript-research, has persisted vigorously, and, in some cases, with elements of arrogance. But there are limits to textual criticism and purely library-research, as most broadminded scholars are nowadays prepared to admit. While it would be foolish to pretend that the study of Cicero, Demosthenes, the Greek tragedians, or, in fact, the bulk of ancient prose literature and poetry, can in any way be affected except the most incidental way by the discoveries of archæology, yet almost all the ancient historians are largely inexplicable without archæological aid and, while the beauty of Homer derives no added lustre from Archæology, yet certain passages are the better understood by reference to the evidence of archæologists and travellers. Grote's *History of Greece*, published in 1846, is to-day, for its earlier parts, obsolete, for, in default of archæological facts, he was driven to resort to the uncertainties of mythology and genealogy; and the main purpose of archæological study in its relation to literature is to give the artistic background on the one hand and the ordinary everyday background on the other, without which literature and history alone can only give a partial account of the ancient world. Nor is it valid to suggest comparison with modern history, for it is often shown that modern and mediæval history derives but slight assistance from archæology and from a study of contemporary art. This cannot be refuted, for the light shed by mediæval and recent archæological and artistic studies is slight, and, indeed, often illuminative only of the backwaters and side-currents of a period; sometimes even it may distort the genuine historical point of view. The reasons are obvious enough: mediæval and modern history has so vastly greater an amount of written record to draw from, so much more illustration of daily life and of the general course of life than Antiquity that it has almost all the sources it requires. Nor, except in some short periods, was art an integral part of the life of the people between the Early Middle Ages and recent times. But in Antiquity, in most countries, artistic interests and production were far more widespread and more understood by the people at large, and, in consequence, art belonged much more to their daily life, so illustrating conditions more favourably than it would in later ages; and, further, only the great authors of antiquity have come down to us. Except for the faint light thrown by inscriptions, tablets, and papyri upon the business methods and the daily occupations of some few communities, we know little or nothing about the activities of daily life in ancient times except what we learn from archæological discovery and record.

To reconstruct the life of, say, the seventeenth century from archæological and artistic records would be to give an account of that century which would be largely if not wholly false, but the same process applied to Greece and Rome would be defective in degree rather than in quality.

There are many *lacunæ* in history which archæology can still hope to fill, and there are still many key-sites at which archæological investigation would contribute more largely than from regional inquiry of a more general nature. St. Albans, the ancient Verulam, in England, Balkh in Afghanistan, some of the great deserted sites in the North Caucasus, and Dodona in Greece, are instances of important places which would be relatively more productive and important for their size than many of the smaller sites which are being explored.

The following survey may help students to a realisation both of what is being done and of what remains for achievement.

Great Britain and Ireland.—Intense activity has been evident in the last two decades, which has resulted in a study of Romano-British history of great accuracy and scholarship. With the above-mentioned exception of Verulam—the site of which is not beneath the modern town—few of the larger sites still await investigation. Silchester, the larger sites on Hadrian's Wall, Wroxeter, Cærleon, Richborough, and parts of York, Colchester, and Chester, have all been excavated and fully investigated. Scores of Roman villas throughout the country are now fully cleared, though there is, all too frequently, a tendency for enthusiastic amateurs to indulge in unauthorised excavations on such sites. Surface research has made it possible now to establish the outlines of the system of Roman roads and of Roman settlements.* In the prehistoric periods, from Palæolithic to Iron Age, sites are fully recorded. The Celtic period is well studied and the Early Iron Age now in process of better inquiry.

Work to be done consists more in the amplification of knowledge than of the addition to it of wholly new material. Nor are there now many *lacunæ* in our history or prehistory of supreme importance.

In Ireland there has been little or no excavation.

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* See the new Ordnance Map of "Roman Britain" (2nd ed.)

Classification of objects of the Bronze Age and the Celtic period is adequate, but scientific archæological research has not been extensively carried out.

Italy.—The major Roman sites are known and largely excavated. The continuation of excavation at Pompeii is now more methodical and more productive. The Etruscan period still awaits greater research both in the interpretation of what has been found and in the accurate excavation of Etruscan sites. The Early Iron Age is in much the same situation; nor is there as much material of the Bronze Age and Neolithic period as might be desired. But the greatest need is the proper excavation of the sites of the Greek cities of Magna Græcia and, to a less degree, of Sicily. It is, indeed, remarkable that no site in Italy of this period, except that of Cumæ, near Naples, has been properly examined. There remain to be explored great cities like Croton and Sybaris, Metapontum and Velia, all of supreme interest. In Sicily more has been done, and the site of Selinus, a perfect example of a Greek city-state of the fourth and fifth centuries, has been well excavated. Motya, a Carthaginian site, Syracuse, and Acragas (Girgenti) have been accurately examined and partly excavated. But there remains much: the sites of Himera, Segesta, Camarina, Leontini, and Naxos, among others, await examination and research. But the collaboration of foreign scholars is rejected, and only surface exploration is allowed them.

Greece.—The Greek and prehistoric sites excavated are too numerous to mention here. What remains to be done is more important. In the prehistoric periods there is much. Mainland Helladic sites and island Cycladic sites must still be excavated before our final conclusions on these periods and regions can be firmly established. Minoan sites outside Crete and Mycenæan sites outside the mainland must also be sought for. In the north, our knowledge of Macedonia, slight as it is, is entirely a post-war growth, since before the war these regions were closed to inquiry for political reasons. Thrace and Thracian history and prehistory alike are at present almost a sealed book, and the Thracian language hardly known. For the historical period the settlements of the North Ægean demand excavation, and would be productive of unusual results, judging by recent discoveries in those regions. Colonial sites on the Adriatic coast and settlements in the Ionian Islands, as well as in the Sporades and Cyclades, need examination. Ætolia and Acarnania have not been fully examined and may yet be productive of much. Lemnos, Imbros, Samothrace, and the northern Sporades deserve more examination than they have yet received.

Bulgaria and Yugoslavia.—In the former country much has been done, though during the war much damage was inflicted upon the antiquities of regions of Greece and Roumania under Bulgarian control. But the prehistory of Bulgaria is better known than its history, at least of the classical period. Many Bronze Age sites have been methodically excavated, but there has been no full-dress excavation of a Greek site in Bulgarian territory, such as the cities that lie upon the Pontic shore. Museum research is adequate, and at Sofia there is a fine National Collection.

Yugoslavia is relatively backward in archæological research, nor is there much opportunity as yet for scholars to carry out excavations. For the prehistoric periods the present régime inherits the fine work carried out by the Austrians in Bosnia, at Laibach, Zagreb, and along the Dalmatian coast. One scholar, M. Bulitch, has been responsible for the very satisfactory excavation at Salona, near Split, and another, M. Vassitch, for the admirable researches carried out over a space of many years at Vinca, a prehistoric site on the Danube near Belgrade. But the central areas of Old Serbia and the Croatia remain largely unexplored, though their proper investigation would go far to clear up problems of Greek and Central European archæology.

Turkey.—Like Greece, Turkey now affords facilities to foreigners, and has been open to excavation for a long time. The known sites already excavated are too numerous to mention. The *lacunæ* are important, but in few cases are they key sites. A survey with excavation of Anatolian prehistory, coupled with the re-excavation of Troy and some neighbouring contemporary sites, is much needed. Smaller prehistoric sites are hardly excavated at all, and our information upon the Neolithic period and the Early Bronze Age and Early Iron Age is negligible. For the better knowledge, for instance, of Phrygian antiquities much might be done by small and inexpensive excavations in North Anatolia. Nor do we, as yet, know anything about South-East Asia Minor or of the prehistory of Caria and Lycia, both of which are vital for our better knowledge of Ægean antiquities. Many of the smaller Greek sites on the Ionian coast remain unexplored, even if the major have been excavated, and we know nothing at all except from occasional discovery of the deeply interesting Ionian and Dorian settlements on the Black Sea between the Bosphorus and Batum. In the Hittite sphere more has been done, but a re-excavation of Boghaz-Keui is essential. Farther east all is dark, and of early Armenia we know nothing except from occasional and enigmatic isolated discoveries. Nor is there any light from Kurdistan.

Mesopotamia.—The astonishing discoveries at Ur should not obscure the fact that much steady and well-organised work has been carried out in these parts, and that Nineveh, Assur, and Babylon are excavated sites of great extent, though not investigated by British scholars. The most pressing need now is for the excavation of more Sumerian sites and for the examination of the earliest periods of all, so that the origin of the Sumerians, at present completely unknown, may be ascertained.

India.—It is strange that the Indian Empire should have been, until the last four or five years, entirely oblivious of the fact that it possessed a prehistory. It is, in fact, the only highly organised country that has been content to abandon inquiry into its past beyond a period about 1000 B.C. Now, the recent excavations at Mohenjodaro and Harappa in Sind have revealed a culture that belongs to the fourth and third millennia B.C., with contacts in Mesopotamia, at Kish, and farther north at Susa. This culture has provisionally been termed " Indo-Sumerian," and boasts a peculiar pictographic script as yet undeciphered.

The patient work carried out for long by the Indian Archæological Survey in the north-west at Greco-Bactrian sites, and the excavation of the important site of Taxila, has widely illustrated Indian culture of the last two centuries before, and the first four after, Christ, when Hellenistic influences were still persistent. The preservation of much Greco-Bactrian and early Indian sculpture has resulted. The more northern connections of these regions with Afghanistan are now under process of inquiry by a French mission. Fine work has also been done by the French School of Far Eastern Antiquities into the early history of the Khmer civilisation in Cambodia.

Russia.—Northern Russia and Siberia remain widely unexplored by archæologists, apart from the recent profoundly interesting discoveries by Colonel Kozlov in Mongolia near Urga, and by Radloff near Minussinsk, both carried out since the war under the control of the Soviet Government. Good work is also being done in South Russia in the further exploration of Greek cities and Scythian and Sarmatian burials, of which our previous knowledge was extensive. Odessa and the Crimea are still greatly productive, and their continued importance is not being neglected. Prehistoric sites in West Russia still have to be more extensively explored, and for the earliest prehistoric periods we have by no means as much information as we could wish.

Central Asia.—Brief excavations during the course of wide travels and surveys by Sir Aurel Stein have added enormously to our knowledge of the vast regions east of the Pamir and north of Tibet. The same archæologist and explorer has also surveyed and examined in great detail parts of Western Turkestan, Seistan, and the Upper Indus Valley. At Anau, in Western Turkestan, near Askhabad, scientific excavations by an American mission were carried out a few years before the war on a prehistoric site, and the results remain our only knowledge of the prehistory of this fundamentally important area. From the point of view of Sumerian, Scythian, and Indo-European origins, no ground is pregnant with more important results. But it will be long before excavators will be given a free hand in these districts, for their strategic importance militates against anything in the nature of a survey by foreigners, and the Soviet Government is no more likely to welcome alien intrusion into Turkestan than was the Government of the Tzars.

China.—Chinese antiquities are far better known in themselves than in their context. Virtually no scientific excavations have been carried out on Chinese soil until the last few years, when the excavations of a Swede, Dr. J. G. Andersson, in Kansu and the western provinces has at last revealed a prehistoric, possibly Neolithic, culture in China not previously known. Its probable connection with the West, via Turkestan and Seistan to Eastern Europe, makes it one of the most interesting of recent Asiatic discoveries. For the Chou, Han, and Tang Dynasties we have the ample evidence of tombs, but next to nothing from a more strictly scientific point of view. Chinese art has, in consequence, been left mainly to the connoisseurs and art critics. Unfortunately, too much has already been taken from tombs for us to hope that the connoisseurs will invoke the assistance of archæologists, nor is the present condition of the country likely to favour their activities.

America.—The antiquities of Mexico have been studied extensively by American scholars and antiquaries for many years, but the interest in the culture of the Maya of Central America is of fairly recent growth, and mainly due to the research of British travellers. Two men, the artist Catherwood and the scientific explorer Maudsley, first collected by surface survey records of all the extant monuments of the surprising culture of this early American people. Recent tentative excavation and further research is in process of adding to our knowledge, but much remains to be done, more particularly as in British Honduras we possess a colony where every phase of the Maya culture is to be found. But, as an authority tells us,* "at present this rich field has hardly been touched, and there awaits us an opportunity of making as great a contribution to the elucidation of the origins of American prehistoric civilisation as we have made to those of Greece, Mesopotamia, and Egypt."

Africa.—Outside Egypt and the Sudan there are, in northern parts of the continent, the vast Roman and Punic provinces of Algeria, Tunisia, and Morocco, and the well-preserved ancient Greek colony of Cyrene. The former have been carefully studied for many years by French archæologists, and excavations have been carried out in many places. Large Roman towns like Timgad are found to be in excellent preservation, and the accumulation of knowledge of Roman times gained from these regions is very great. Carthage has been partly explored also. But the prehistory remains largely a blank.

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* T. A. Joyce, *Maya and Mexican Art*, p. 2.

Cyrene has been excellently excavated by Italians, after a preliminary investigation by two British naval officers in 1860 and 1861, which was productive of many fine antiquities. Again, the dry climate of Africa has preserved much, and Cyrene must rank as one of the more impressive Greek sites. Elsewhere in Tripolitana further traces of Roman occupation have been cleared.

The southern part of the continent has given much evidence of value for prehistoric culture, and in the last year the curious ruins of Zimbabwe, in Rhodesia, have been submitted to a scientific scrutiny which has finally dispelled the wilder hypotheses which amateurs had attached to them. It seems clear that they are not much more than nine hundred years old, and representative of indigenous culture, perhaps Bantu.

France and Spain.—The important Roman remains of these two countries are sufficiently well known and adequately studied not to need description. The Greek settlements, on the other hand, are lamentably unknown. Marseilles, being a large modern city, prevents exploration of the site of Massalia beneath it; but something has been done to collect what scraps of that fine colony have emerged. Of the other Riviera settlements we know next to nothing. In Spain only one Greek site has been excavated—Ampurias, the ancient Emporiæ—and that not well. Of the dozen other Greek colonies that were planted along the east coast of Spain, hardly even the identifications are sure.

Of Spanish and French prehistory we are, on the other hand, excellently informed, and the gaps in our knowledge are slight. It is particularly rich for the Palæolithic periods.

Germany, Scandinavia, and Central Europe.—The great structure of Central European prehistory needs no comment. Adequate workers and adequate facilities have reconstructed all the prehistoric periods with no little precision. Enormous material has been scientifically handled. So, too, the scantier Roman remains of Germany, Austria, and Hungary have been faithfully recorded and preserved, and the occasional traces of Rome in Scandinavian districts have been noted and fully published. The work to be done consists mainly in establishing the connection between the cultures of Central Europe and the Mediterranean.

These brief notes are not intended to do more than indicate the regions where further work is desirable, and the periods to which students can with greatest profit apply their labours. I have in no sense attempted in so short a space to give an account of all the work that has been done. I have, rather, noted the regions that require more attention and to which the activities of students anxious to make real contributions to knowledge, or of patrons who might wish to inaugurate discoveries of importance, may be diverted.

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MAN IN THE MAKING

AN INTRODUCTION TO ANTHROPOLOGY

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MAN IN THE MAKING

CHAPTER I

INTRODUCTORY: HOW THE STUDY OF ANTHROPOLOGY ENLARGES THE MIND

Six talks delivered from London for the British Broadcasting Corporation form the heart of this little book. I have been advised to let these stand as they were given, since some of those who listened in may like to refresh their memories. On the other hand, though it has been possible to include some additional matter, there was not room for more than a partial and purely illustrative treatment of so vast a subject. Enough, then, if these remarks serve to point out the way to a field of intellectual adventure where not only risks but rewards in plenty await any inquirer who has the courage to seek for himself.

Now, in a sense, every human being is an anthropologist without knowing it. For everyone has views of a kind about human nature. Nay, having his individual experience to draw on, everyone is qualified to shed fresh light on human nature in some degree. At the same time, if one does a thing at all, one prefers to do it well; and well in this case means scientifically. Science is ordinary experience controlled by method. By proceeding in a workmanlike manner one can do wonders in the way of improving the quality of one's knowledge. This does not mean, however, that the science of man should be handed over once for all to the experts. To professionalize the subject would be to dehumanize it. Since it touches all, let all insist on knowing as much about it as their opportunities will allow. Otherwise, the human interest is sure to be smothered in technicalities. I am convinced that to make anthropology popular will help to keep it sane.

At present, however, there are to be found among the wider public both friends and foes of anthropology whose respective reasons for their attitude would appear to be equally unsound. To consider the foes first, their contention is that the primitive is alien and offensive to them as civilized beings. To reply that possibly they are more savage than they suppose would hardly be conducive to amicable discussion, whether true or not. The more persuasive line to take is to assure them that anthropology is not concerned with the savage only. As the science of man, it studies the entire history of the human species in general. The method, however, is evolutionary, which simply means that man's past is assumed to contain the germ of his present and future. Thus anthropology takes savagery for its starting point, and tries to explain civilization as the outcome of humbler beginnings. It is odd that there should be people who think this an improper thing to do. It must be a bastard civilization that cannot afford to recognize its own parentage. Further, when the matter is looked into more closely, it turns out that there are a great many types both of savagery and of civilization, each having merits and defects peculiar to itself. How can it, then, be reasonable to assume off-hand that one's own type of culture is perfect, and as such destined to prevail everywhere and always? On the contrary, to pick out the tendencies making for the greatest good of the greatest number of the human race is a complicated task, which must nevertheless be faced. We need to survey man's very various experiments in the art of living with an open mind. Only by so doing can we hope to bring our particular scheme of values into harmony with the universal laws of human life.

To turn now to those friends of anthropology who are on the right side for wrong reasons, exception must also be taken to the not uncommon view that savagery stands for the simple life at its best, and consequently that in adopting civilized ways man has turned his back on the golden age. But, surely, the golden age lies, if anywhere, in the unknown future. Our savage ancestors were excessively dirty, though they did not realize that they were dirty; excessively poor, though they made the most of such resources as they had; excessively liable to disaster, though they cheerfully took daily peril as a matter of course. To secure such animal well-being as went with this toughness of fibre, what community of civilized men would care to pay the price of readaptation, with all the loss of life incidental to the reversion of any domesticated stock to a wild condition? From an office stool it might seem that camping out savage-fashion must amount to a perpetual holiday; but the reality would prove about as trying to the average constitution as winter in the trenches. But it is not so much materially as spiritually that our forefathers were worse off as compared with ourselves. Though they felt just as strongly, they had not yet learned to think; and the result was that they were perpetually haunted by distressing fancies. Now, human enlightenment being at all times relative, no doubt there were always leaders of opinion—masters of magic, as would be the savage way of putting it—who after a fashion kept their heads, while the rest were but as nervous children in the dark. Yet even these leaders led gropingly, blindly. Their only stand-by was custom, their only maxim "carry on." Though the mind of man was already engaged in its unending struggle to get the better of circumstance, that sense of intellectual freedom which comes only with steady vision was as yet undeveloped. Fear herded them along—the fear of leaving the beaten track. Confidence, on the other hand, attends those only who follow a direction of their own seeking. Savagery, then, by no means involves a life of plain living and high thinking. Intellectual confusion combined with physical discomfort would sum it up more truly.

No, if the civilized man is to study anthropology, it must be in order to become more civilized. The place of the science of man is clearly among the liberal studies, the humanities; and its function is, first and foremost, to enlarge the mind. Europe has too long been inclined to regard its own culture as the only culture that counts. Europeanism, however, is becoming parochial. History has henceforth to be treated as human history, with every part of the containing time-world and space-world duly accounted for. Measured in years and miles, this human theatre is not so very vast after all, as set against the background of those cosmic infinities with which science has to reckon. To frame a composite picture of our whole race-history in broad outline becomes more feasible every day. Now even to contemplate mankind in this extensive way is highly educative. It affords a juster perspective, a better appreciation of what is vital for man in the long run and on the whole. Just as an aerial photograph taken from a great height brings out the structural features of a stretch of country, emphasizing the main lines to the exclusion of obscuring details, so a bird's-eye view of the career of the human species reveals an ordered process, a law, pervading the erratic movements that have accompanied the spread of mankind over the face of the planet. Despite tumultuous eddies among the shoals and rocks, there is as it were a steady tidal advance to be observed; and this, biologically speaking, amounts to an evolution or increase of dominance on the part of the human species. Even when such a surface view is taken of man's rise to supremacy in the animal kingdom, the spectacle is impressive, and encourages us to be proud of our humanity.

There is, however, another way of regarding this evolutionary process, which may be termed intensive, since it looks past the extent of the series of events in time and space, and tries to perceive their intent or underlying meaning. Now we are in a unique position as regards the portion of the organic world represented by man because, in that we are ourselves men, and capable of reflection, we have direct insight into the inner workings of this so-called evolution or unfolding to which all life is subject. Thus we know for certain that in our own case it is the product of forces that are mental and moral rather than mechanical in their essential nature. Though it may be that part of our nature lies too deep for any self-consciousness to fathom, we can be sure that a will not only to live but to live well guides the course of our onward striving. Self-analysis, indeed, that is, the questioning of our motives with the object of discovering what we really want to be and to enjoy, must always begin at home—namely, within the personal experience of the thinker. But, by watching our fellow-beings and conversing with them, we can, by a sort of sympathetic projection of our personality, enter into their minds as well, so as to discover how far they are moved by similar sentiments and ideals. More especially can we thus explore the nature of that social consciousness, as it may be termed, which renders us more or less like-minded with our fellow-citizens; going on thence to compare and contrast the collective minds of the world's other peoples. Whether our object is to co-operate or merely to compete with them, it is well to have an adequate knowledge of their psychology. There can be no doubt, however, that such mutual understanding must make in the end for more friendly relations. A kindly disposition to live and let live cannot but be fostered by intelligent acquaintance with the many-sided manifestations of individuality, both personal and communal, of which the human race is capable.

Now a purely external view of such differences seems chiefly to make them offensive to the average man. Their unfamiliarity breeds contempt. He is like a dog that cannot recognize the smell. But he has only to regard these same differences from within—from the other man's angle—to realize that they are reasonable enough, given a certain outlook on life. Sometimes, no doubt, we may deem it our duty to try to educate the other man out of his present frame of mind as being incompatible with the interests of the wider world and thus ultimately incompatible with his own interest. Even so, however, the process of education must start from a point determined by the previous mental condition of the pupil. The natural and traditional aptitudes must be given their chance. When, for instance, we seek to civilize the savage, we must be careful not to kill the plant by over-pruning. For the rest, with fuller experience of the rich content of human intelligence, we shall become more tolerant of diversity, more inclined to widen our own tastes, as in matters of fine art, than to curtail those of our neighbours. Anthropology is like travel. It shows one how much there is to admire of both old and new in this ancient, wide, human world of ours. The very variety of the creative efforts of man is wonderful; and, whatever may be the benefits to be derived from an applied anthropology — and I believe them to be vast — pure anthropology, like every other branch of pure science, is mentally enlarging because it begins and ends in wonder.

CHAPTER II

EVOLUTION: HOW MAN'S HISTORY IS ONE OF GRADUAL ADVANCE

THE word "evolution" is one of which some people seem to be frightened. This must be because they are in the dark as to its meaning. If they viewed it in the light of science it would cease to be a bogey. Evolution simply means "unfolding," as the flower does when it develops out of the bud. The term was introduced by the philosopher, Herbert Spencer. He used it to describe what he supposed to be a tendency common to everything on this earth—namely, a tendency to grow more complex. Then Darwin borrowed the word, confining it however for his special purposes to that growth in complexity which living creatures have on the whole undergone, in the course of the many million years during which life has flourished on this planet. Now life, in growing complex, has pursued very divergent lines, so that the animal, the vegetable, and the insect worlds seem to-day largely independent of each other, even if the difference between them becomes less the further we go back in their history. Of the animal world, man is unquestionably the king. He is the type-animal for science. No other animal lives, or in the past has lived, so complex a life. For this man has to thank not so much his body as his mind. Moreover, human minds can be joined and their products shared, as happens among no other animals, however social in their habits.

Man alone has culture, which may be defined as communicable intelligence. The fruits of mind which we exchange among ourselves, having received much of them from our forefathers, and hoping to pass on to our successors at least a little more than we inherited, are the weapons which render us, despite our frail bodies, invincible in the struggle for existence. Curiously enough, the only serious competitors of that highly evolved being, Man, are nowadays the low organisms known as disease germs; and even these seem to be giving way before the onslaught of science. In speaking, then, as I am going to do, about the making of man, I shall attend entirely to that side of the process which has to do with the development of culture. Thus viewed, the making of man is essentially a self-making. After all, culture only means cultivation. Every man is born a landed proprietor in the sense that in his mind he owns a field which will bear fruit in proportion to the tillage he puts into it. Hence, if anyone is unwilling to speak of the evolution of culture, either because he dislikes the term "evolution" altogether, or because he prefers to limit it to the process whereby we grow as contrasted with the process whereby we make or cultivate ourselves, let it be termed instead the "elaboration" of culture. Without labour there can be no culture, no advance in such intelligence as can be shared and perpetuated. Labour of the mind aided by labour of the hand—and man, of course, is the handy animal, who has learnt to know things largely by grasping them—has slowly but surely fashioned an ever-expanding social tradition, which is our charter of empire over the rest of creation.

At first, it was an oral tradition, a word-of-mouth affair, a folk-lore. Later, writing was invented, and it became a clerk-lore, a literary tradition; this being the decisive moment when culture developed out of barbarism into true civilization. These chapters, however, will be concerned only with the earlier stage, when communication was still by word of mouth, and progress was consequently slow. Yet the first step costs most effort, and our remote forerunners deserve all the credit we can give them for having done the hard pioneer work in the cause of human self-education. A little attention on our part is their just due, because they tried and, often failing, tried again. A determination not to be beaten is the birthright of our race. It is man's prerogative to make mistakes and yet benefit from the lesson. To go on reducing the margin of error is to succeed. So, since any fool is wise after the event, let us not dismiss with contempt the working principles of the founders of our culture as a tissue of exploded fallacies. These principles worked well enough for them, or we should not be here now. I have no patience with those who regard history as but a long testimony to human incompetence and folly. To break with the beast and bring out the man, the humane animal, is no small achievement; and it was accomplished at no small cost by humble, not to say brutish, folk, whose sheer pluck brought them through. We should not be far wrong in supposing that the leading characteristic of our species is a taste for adventure. Striving for its own sake comes easy to the imaginative, because they are always ahead of themselves and seem to grasp whatever they reach out to. I suspect that imagination was ever the queen of the human faculties, and cheered on that laborious quest which, in the old days more especially, involved certain risks and most uncertain profits. If the old-world notions appear to us fantastic, let us at least recognize their imaginative quality as all to the good. Something was there in the mind of the race to cry "Forward," though no man knew exactly whither.

So much for general principles. Now for their illustration. The rest of this chapter will briefly take stock of the progress achieved by the cave-man of prehistoric Europe. But even he went back to simpler beginnings. In fact, at a certain point in our backward survey we reach the pre-human. Are the apes and monkeys our poor relations? I think myself that it would be sheer snobbery to deny it. We may console ourselves, however, if we like, with the reflection that the common ancestor as science guesses him to have been—for there is no direct evidence whatsoever—was no ape, but in a sense more manlike than apelike in the qualities that he possessed and prefigured. In other words, the presumption of science is that we represent the prevailing line of evolution more nearly than the apes; which have become specialized to forest life, whereas the common ancestor like ourselves was more of an all-round customer—ready, for instance, to eat anything, flesh or fruit, that he could lay his capable and sensitive hands upon. As I have said, however, this generalized ancestor remains a pure hypothesis or plausible guess. When, at the end of the Tertiary Period, fully formed man emerges into the field of vision of our scientific telescope, he is already possessed of the rudiments of culture.

The earliest known Englishman, for example, the so-called Piltdown man, has left enough of his remains in a gravel-bed in Sussex to make it clear that his skull contained a fair-sized brain, twice as big as an ape's; while what looks like a well-designed club of elephant bone, implying the use of a flint knife, was found close by. Even so, he fell short, as far as we can tell, of the level of the cave-man, such as his successor, Neanderthal man, undoubtedly became. Whenever it happened, this first occupation of a cave-dwelling, it was a decisive step forward, an emergence of the householder and his housewife. To themselves it may have seemed at the time a step backwards, forced on them by a change of climate for the worse. If so, one can only say that necessity, in the form of a struggle with adversity, is the mother of invention. Somehow man had learnt not only to keep the home-fire burning, but, what is much harder, how to light it. By knocking two lumps of iron-pyrites together, perhaps, in the course of his flint-chipping operations, he produced a spark which, after further experiment, he nursed into a flame. However it was done, done at last it was; and puny man, the intrepid master of fire, could henceforth rout the giant, but relatively feeble-minded, cave-bear from his coveted lair. I have spent seven summers in helping to excavate such a converted lair of Neanderthal man in the Island of Jersey—then a hill standing up on the wide plain of the Channel River, where the mammoth, the woolly rhinoceros, and the reindeer wandered at large and provided excellent hunting. Nearly forty species of animals furnished the bones found by us in that cave-kitchen. There were the hearths round which the hunters feasted; and there in plenty were the flint knives with which they cut up the abundant meat, together with the scrapers that prepared the skins for use as coverlets or garments. Sealed and secured under some four thousand tons of rock-rubbish lay this evidence, which no fair-minded man can gainsay, of man's hoary antiquity. Argue if you like that these Neanderthal men were not our direct ancestors. That is indeed probable. But were they not men notwithstanding? Proofs are forthcoming from the French caves that they buried their dead with provision, in the way of food and weapons, for a future existence. Thus, ancestor or not, Neanderthal man has a chance of meeting us in heaven, I should venture to think.

To judge by his remains, however—which by no means reveal his whole apparatus of arts, since the wood, skin, sinew and so on have long ago perished—Neanderthal man was a long way behind the later cave-men as regards both the material and the spiritual aspects of his culture. Overshadowing all their other achievements are the fine-art products of these more refined folk, who, by the way, are physically of our type, and may be of the very flesh and blood that, after much further mixing by the way, have come down to us. These cave-artists, as we may call them, have left us in France and Spain whole galleries of wall-paintings and engravings, as well as a plentiful store of carvings and modellings in stone, bone, ivory, and even clay that has miraculously escaped the destructive touch of time. Of all my personal experiences, I know of none more rich in wonder and genuine awe than a visit to one of these vast galleries, burrowing into the deep heart of a limestone mountain, and revealing, away back in a darkness hardly tempered or robbed of its mystery by one's feeble lamp, lifelike animal forms, mammoths, reindeer, bisons, even trout, boldly executed in black or red by ancient hunters, whose eyes had unerringly noted every detail of the natural outline and pose. Can one doubt, then, that there had been spiritual advance since the days of Neanderthal man, who seemingly had not cultivated in himself any such powers? It matters not if we suppose that the inspiration came not so much from a love of beauty as from a belief that power over the image gave one power over the thing; so that to get good hunting one must magically foreshadow and foredoom the beasts which one was about to chase. Let me reserve the subject of magic for the next chapter. This much, however, I would say now, that from spell to prayer —from foreshadowing gesture to foreseeing petition —is spiritually no great step, since both attitudes depend on faith. So I am prepared to argue that the cave-artist was a religious man in his way. Moreover, I think that he had refined on the religion previously practised by Neanderthal man in the shape of a care for the future of the dead. For by associating his sense of religion with his sense of beauty, he enlisted in the cause of man's spiritual evolution a new force and one truly akin to the sense of the divine. The unfolding of our perception of the higher values is, after all, a single process. To evolve—that is, to grow more complex—is to cultivate at once and together all the tendencies that are worthy of the complete man.

CHAPTER III

MAGIC: HOW SUGGESTION WORKS SEEMING MIRACLES

In the last chapter I said something about the figures of animals depicted on the walls of the French and Spanish caves. I then hinted that, beautiful as many of them are, they were more than works of art, their main purpose presumably being to bring about good hunting by means of what is usually known as imitative magic. The notion underlying practices of this kind, which form a wide class, is that, if we can make the likeness obey our will, the original must follow suit. In another class of magical acts, which have been termed homœopathic, it is not an image but an actual part or property of the thing—some of its hair, for instance, or some earth from its footprint—that provides the control. To illustrate from ordinary experience, when a lady is away, her photograph or a lock of her hair or even one of her gloves may afford some consolation, as being at least suggestive of her real presence. In either case, then, whether the magic is imitative or homœopathic, the mental principle involved is the same—namely, that the vivid suggestion of a desired event is a means to its realization. Now we all know to-day that this principle holds only within certain limits. It appears to be our own inner nature that is obedient to suggestion rather than the nature of outward things. As a matter of fact, however, modern science is none too certain where to draw the line between these two aspects of nature, the mental and the physical; as notably in the case of our body, which responds to the influence of the mind in ways by no means yet fully explored.

No wonder, then, that the primitive man, starting to experiment with this wonder-working power of suggestion, was a good deal vaguer than we are about the conditions limiting its use. With full faith, no doubt, in the efficacy of his magic, the prehistoric hunter doomed his food-animals, picturing their fate so plainly to the eye that, as I have myself seen in a cave in the French Pyrenees, the whole process of the chase is symbolized in detail—the weapons being shown to the right, in the middle what are presumably the tracks of the circle of beaters, and to the left the dying bison, with a bold red patch to represent its bleeding heart. The impression is so vivid that the thing seems as good as done. How can nature refuse to follow man's lead when man is so sure about the way and points it out so clearly? Man already declares in advance that he is the lord of creation. From the dark cave of his mind, as it were, issue directions that will eventually transform the whole face of that material world on which the sun shines.

Let us, further, observe how helpful it is to the evolution of human intelligence that men should make clear to themselves beforehand exactly what they want. The other animals are at man's mercy because they cannot look ahead, as he by dint of a long course of picturing and pantomime has taught himself to do. As for pantomime, another French cave presents the impressive figure of the medicine-man rigged out with the horns and hide of a reindeer, only the legs betraying the man beneath. Doubtless to himself and his fellows, as he postured and pranced, he seemed to have become one with the real reindeer, to be possessed by its very soul; so that, being thus in touch, it gave up its will power to him, and could deny him nothing. Having thus created a bond of magic sympathy, a band of dancers, led by the medicine-man, would call on the food-animals to increase and multiply. In a second cave close by one may see the prints of many dancing feet, in front of a pair of bisons, male and female, wonderfully wrought in clay. In yet a third cave is a clay figure of a cave-bear—one of a row of such models—with the skull of the real bear for a head; and the body is punctured all over with spear-thrusts, so that one can almost overhear the accompanying incantation: "Thus and thus and thus, O Bear, mayest thou die!"

Now, if anyone thinks that these memorials of more than ten thousand years ago are in a language that we cannot hope to interpret truly at this late time of the day, one has only to turn to the modern aborigines of Australia, who practise a hunting magic which is entirely similar in its outward expression, and presumably therefore in its inner meaning as well. The very man, in fact, who was lucky enough when a youth to discover the clay bisons of which I have just spoken, has written a most convincing novel about the ancient cave-man by drawing freely on Australian parallels to help out the silent record of old-world Europe. The Australian attitude towards the animals and even the plants with and on which they live is summed up in the word "totemism." A totem is an animal or plant species with which a body of men claims to have a special relation, which may be briefly termed kinship; though it is a sort of kinship which, as man understands it, allows one to live on one's relations. To be sure, one is not supposed to eat one's own totem in a general way; or one cannot hope to persuade it by magic to multiply itself in order to increase the tribal food supply. On the other hand, by a sort of division of magical labour, each group, at the cost of abstaining from one kind of food, is assured, as far as magic can do it, of every other kind of food in plenty. The totemite can have his fill of everything in the tribal bill of fare, *minus* the one dish that it is his business to provide by magic; and this magic involves sympathetic dealings which make abstinence a sentimental necessity. One does not kill and eat a kinsman and friend. Now we have no reason to doubt that this sentiment is genuine. When you admit your special animal into the family, so to speak, you mean henceforth to do your best for it, to make it grow and prosper by your magical patronage. You are not conscious of any treachery in making up to it in order that later on, while you stand by, others may slay it for food. Already at this stage you probably feel in your heart that man is owner and disposer of all creation—that animals are there for man's use. Thus at the back of all primitive magic is a claim, and one that by repeated experiment has been largely made good, to rule the world. By forcibly figuring out beforehand what a better world would be like, magic at least sharpens the will and appetite for power. Then, in the course of the search for power, trial proves some of the many means explored to be really effective, really productive of wonders; and, while the many failures are forgotten, the occasional successes, by unconscious or conscious selection, go to swell the social inheritance, the traditional culture, of the race.

Now someone might argue that trial could only prove that all magic is a complete failure. This is not so. In one department of magic, for instance—black magic, as it might be termed, since it is essentially a magic of black evil-minded hate—the successes achieved by suggestion are only too unhappily manifest. A savage convinced that he is bewitched by a powerful magician will assuredly die, and die in a few hours, unless someone is at hand who can persuade the victim that his counter-magic is even more powerful. Thus I have in my possession a magical pointing stick, procured among the natives of Central Australia. It is nothing very formidable to look at, being the bone of an emu, incised with a few notches and decorated with feathers. When properly sung over, however, it is reputed to be able to kill a man at a distance by projecting into him evil influence. Sir Baldwin Spencer asked a native to pretend to point a similar weapon in order that he might photograph him in the act. While doing so the native became convinced that the weapon had, so to speak, "kicked," so that the evil influence had run backwards up his arm. Down he sank, and it really looked as if he might die. Luckily the Professor had a strong counter-magic at hand which brought the patient round. It consisted in a dose of Eno's Fruit Salts. Or, again, I could tell stories about our own countryside to show that enlightenment has by no means yet wholly abolished from our midst the fear of sorcery. For instance, I was told about a village near Oxford by one of its inhabitants that it was, in his own words, "fairly scandalized with witches." Incidentally I may mention that the same individual, an old gentleman of the most venerable appearance, described to me how one night he had been "pixie-led," and failed to find his way home till morning for the spiritual reasons aforesaid. Or, once more, love magic, as practised both by savages and by us, may well prove effective so long as the other party knows that this special form of wooing is taking place. I could quote, also from Oxfordshire, the case of a wax image of the village policeman found in a girl's bedroom and with her hairpin—it was before the days of shingling—stuck through the heart. Could any male breast be hard enough to resist Cupid's dart in such a form—always supposing that it was common gossip that the maiden was desperate and likely to be up to such devices?

If, then, human beings can work the magic of suggestion on one another with considerable effect, was it unreasonable to try it on nature; more especially when nature, being wilder then and less under human domination, seemed more arbitrary in its manifestations, and hence more human-like and alive? After all, the animals, towards which so much of early magic is directed, are alive, and, as the domestication of so many species of them shows, are actually amenable to human control, though not in the precise way contemplated by the magician. On the other hand, the weather is not alive, and to try to rule it by incantation was, in a narrow sense, sheer waste of time. In a wider sense, however, magic was the elder sister of astronomical and meteorological science. The ancient magician discovered that, if he made rain when the wind was in the wrong quarter, nothing happened; the powers were moved in vain. So in time he worked out a pretty sound theory, even if expressed in terms of the likes and dislikes of the weather-spirit, of the real conditions in which wet and dry, hot and cold, might be expected to influence the fortunes of mankind. Or, again, there can be little doubt that, since the sun-magic that answered best was that which most nearly conformed to the sun's actual behaviour, the professional purveyor of sunshine was likewise the author of the first calendar. I have heard recently of an island in the Pacific where the magicians have set up a stone which gives them what sailors call a bearing on a cleft in the hills, corresponding to the exact spot reached by the sun as it approaches the pole in midwinter. Thus, catching it as it were in a forked stick, they give it a twist that sends it back obediently on the return journey towards the Equator. The theory may be wrong, but they have got their facts right, and at least the people who depend on their ministrations are thereby enabled to plant their crops in spring—that is, at the truly wonder-working season of the year. Did space allow, I might go on to illustrate further that side of magic in which it anticipates and approaches what we now call science. Medical science, for instance, can be shown to owe much to ancient magic, and has of late years taken full advantage of suggestion as a means of influencing the body through the mind. Indeed, Monsieur Coué might have borrowed his method directly from the cave-men of ancient France. But this relation to science forms only one aspect of the part played by magic in assisting the unfolding of our higher powers. There is another aspect no less important—namely, one that shows magic of a certain type to have provided a pathway to religion. This difficult and debatable subject, however, I must reserve for the next chapter.

CHAPTER IV

RELIGION: HOW THE CULT OF THE SACRED IS UNIVERSAL

In the previous chapters, when alluding to prehistoric times, I spoke about the cave-man's care for his dead, and, again, about his ceremonies for increasing the food supply. Now are we going to recognize in such acts the beginnings of religion? It is, of course, to some extent, a question of words. Some of us may prefer to keep the word "religion" for an attitude of mind considerably beyond the reach of cave-men and other savages. Now if it were the practical question that was before us—namely, the question what religion is suitable for civilized people—we might have to give the word this more restricted sense. Our present concern, however, is not with practice, but with theory. Our subject is the scientific study of man's nature as revealed in the whole long course of his known history. Hence it will be convenient for us to have a very wide definition of religion, such as will identify it with some broad tendency common to mankind in general. It is the same with all the other definitions of the scientific student of man. When he says "marriage" or "morality" or "law" he does not mean *our* marriage, *our* morality, *our* law in particular, but has a universal tendency in view. He believes that there is enough in common between all men to justify him in acknowledging their claim to have some share, however humble, in these abiding interests, which form the very framework of human culture. Will anyone go so far as to deny the savage capacity for religion altogether? I think not. And, if so, will he not make a further concession, and allow that this capacity, from the earliest times known to us, has been actively exercised to some extent? Doubtless, primitive man found the way to religion by what we may choose to call the light of nature. So long as some sort of natural religion is allowed to his credit, science is content. What we want, then, is a conception of religion at its widest—which is to say, at its least. Let me suggest that it will be enough for our present purpose to regard men as religious in so far as they practise sacred rites—a thing which they all do, and always have done.

Firstly, then, what do we mean by rites — by a ritual? In dealing with the savage, it is necessary to look in the first instance to what he does rather than to what he thinks and believes, because he himself is much more clear about what should be done than about why he should do it. Custom is all-supreme with the primitive man, and so is ritual, which is just religious custom. He is, indeed, far more scrupulous than the civilized man in fulfilling all the outward observances that his religion prescribes. On the other hand, his faith in the efficacy of his ceremonies is more or less blind. Civilized religion, however conservative it may be, is constantly engaged in re-examining its foundations. But primitive religion questions nothing, and, consciously at all events, changes nothing. This, by the way, is the reason why so much that is bad clings to the religious customs of savages. They dare not purge away the rotten wood, and so growth is hampered. So much, then, for the fact that the practice of rites is the outward and visible sign of primitive religion, and one that is everywhere displayed throughout the world.

It remains, in the second place, to ask what is meant by terming them *sacred* rites. What gives them this sacred character in the eyes of the people themselves? Now, as I have said, the early forms of religious faith are more or less blind, and, in order to make sense of them, we must put into words of our own those thoughts which remain so much at the back of the mind of the savage that he can express them only very crudely, if at all. Let us, then, try to put the savage view of sacredness in our own words thus: sacred rites have to do with unseen wonder-working powers which, if dealt with in the right way, will work their wonders for the good of man. Some view of this sort, I believe, underlies the practice of sacred rites everywhere and always. When we try to go a little further, however, and cross-examine the savage as to whether these powers in which he believes are personal or impersonal agencies, we must expect to get very vague and confused answers. Sometimes, indeed, it is pretty clear that the rites have to do with personal beings. Take, for instance, that care for the dead which goes back to the earliest cave-men. We do not know, of course, for certain that at this stage there was any belief that the dead could influence the affairs of the living for better or worse; and that this was the reason why their future wants, in the way of food and weapons, were attended to. Sooner or later, however, funeral rites undoubtedly came to involve the propitiation of the dead as surviving personalities of dread potency who reward due respect and punish the want of it.

Here we have one of the roots — the tap-root, I suspect — of that great class of beliefs that may be summed up in the word "animism" or "spiritism." On this theory, though a man's body perishes, as all can see that it does, something that one cannot see, his personality, lives on, and, moreover, continues to take a lively interest in the affairs and the behaviour of those left behind in the world. How this belief grew up, one can only guess. Perhaps at first the corpse, terrifying in its altered appearance, was simply abandoned, together with the weapons and other belongings that, so to speak, reeked of the personality of the dead man. Perhaps he was abandoned as he still lay dying, and the food was left there on the chance that he might recover. In any case, we may be sure that in such times of backward intelligence the practice ran ahead of the theory, and, in fact, gave it the very shape it was destined to take. Now, so far we have been considering a type of ritual practice—namely, the provision of food and other comforts—which would make for a conception of the nature of the dead that emphasizes their human and personal side. We all enjoy our creature comforts, and in this respect the dead are taken to be of like passions with ourselves. But other ceremonies relating to the dead sometimes seem to strike a rather different note. For instance, the Australian natives are fond of dressing up as their ancestors and solemnly enacting their legendary doings. One might call them historical plays if the whole point of such drama were not its efficacy as a piece of ritual—namely, as a means of getting into touch with the sacred dead. Other primitive folk, who do very similar things, have a theory of what is known as " possession " to account for the religious value of the performance. In other words, they say that the spirits enter into them and enable them to do wonders. There is no evidence, however, to show that this is the Australian view. They have discovered that they are the better for feeling like those grand old men of the grand old days, and they dance themselves up into feeling like them by the most elaborate pantomime. The method is not like that of conciliating a man by offering him food, but rather like that of working upon him by making use of his image. In short, this type of ritual practice has more to do with what most people would call magic. This comes out all the more clearly when we look into the Australian legends dealing with these same ancestors of theirs. It then turns out that the wonder-working men of the grand old days were very much the same as the totems—in other words, were glorified animals. Now another leading branch of Australian ritual is one intended to cause the totem animals to increase and multiply. I spoke about it in my last chapter because it affords the nearest parallel to the proceedings of the cave artists of Europe, who painted the beasts on which they lived in order to control their fate. It is quite likely, then, that the tendency of Australian thought, such as it is, about the meaning of their dramatic rendering of the doings of their ancestors is to associate it with this control of the food supply, and to imagine it not as a matter of intercourse with a spirit, but rather as a matter of the transference of supernatural influence.

There are a great many words in the Australian and other savage languages that have this sense of supernatural influence; while good influence and bad influence of the kind are often distinguished by special terms. The Polynesian word "*mana,*" for instance, has this meaning of mystic influence or wonder-working power; and, although the Polynesians are people of a relatively high grade of culture, there is no harm in borrowing their word to express the general idea, apart from any special associations it may have had for them. *Mana,* then, stands for the power brought into action by sacred rites so far as it takes on a more or less impersonal aspect. It resembles a sort of spiritual electricity, which the expert can generate and transmit, whether in order to help or to hurt, while the plain man regards it as altogether too dangerous to handle. Thus the savage remains somewhat uncertain whether God or Nature, a spirit of wisdom and love, or a system of non-intelligent and blind forces, is there to respond to his efforts to persuade or oblige it to help him. To judge from his practice, he experiments on both theories simultaneously. The most that can be said is that many of his rites imply a doctrine of divine personality and closely anticipate the course which advanced religion has tended to take; though at least one of the higher religions, namely, Buddhism, inclines rather to the impersonal view of the divine. On the whole, however, theism is the prevailing note of developed religion, and theism, if hardly monotheism, goes back to savages as low in the scale of culture as the Australians. The God of their initiation rites, who is supposed to have instituted and to preside over the system of education by which the youths at puberty are taught to be men, is an essentially kindly being—hardly a spirit, perhaps, but more like a magnified, non-natural, tribal elder, whose interest in the well-being of man is unquestionable, even though he is apt to smite the wicked. Just to show, however, how different from ours a primitive religion may be in regard to its symbolism—that is, the system of outward and visible signs that it employs to express its beliefs about the unseen—let me add that the High God of the Australian mysteries has for his chief and most sacred symbol a thing that occurs in England today only as a child's toy, and goes by the name of the bull-roarer. Some of my readers who come from country districts may have met with it in their youth. If not, anyone can satisfy his curiosity on the subject by making one. Cut a flattish, elongated blade of wood with each end curving to a point, and bore a hole at one end so as to tie on a string about three or four feet long. Then whirl it round, having first twisted the string round on itself a little so as to cause the blade to rotate at the same time that it swings in a circle. The result is a weird noise, like the mutter of thunder, like a mighty rushing wind, like spirits in the air. Animals such as elephants, deer, cattle are driven into a panic by the sound, perhaps mistaking it for some trumpeting insect, and hence it is sometimes used by primitive hunters for rounding up the game. But its chief use is as a religious symbol. Probably because its booming note is suggestive of thunder in the sky, it is associated with the God who lives in the sky, and whose voice is heard in the thunder when he is about to send rain upon the earth and make things grow for the benefit of man. It is a curious fact that the cave-man of Europe seems to have had the bull-roarer. No such wooden objects have survived, of course, but certain ivory pendants look like copies of wooden bull-roarers, and, if the latter already had a sacred significance, might well have been worn for luck; just as other religious symbols, the cross or the crescent, may lend their form to amulets. If, then, the bull-roarer goes back to these very ancient times as a symbol of religion, this might help to explain its very wide distribution over the savage world to-day, no continent being without it. Now it may seem childish to liken the noise made by this thing of wood and string to the voice of a God, but in passing judgment on the savage we must allow for the fact that the bull-roarer is probably always regarded as more or less of a symbol. Something quite humble and ordinary may, after all, serve well enough to suggest something else of supreme importance. In fact, as I have already said, we learn enough about Australian beliefs concerning their High God to know that they can, and do, think of him as the author and sustainer of all that makes life worth living. They even call him "Our Father," though the Australian's word for father has more the sense of "tribal elder." Here God, then, stands for the intelligence inspiring the social institutions of man. In subsequent chapters on marriage, government, and law, I shall try to show how much intelligence is involved in their development, and how much religion has had to do with bringing it out.

CHAPTER V

MARRIAGE: HOW FAMILY LIFE IS FUNDAMENTAL

I HAVE already said that religion has played a large part in assisting the development of interests so essential to human welfare as are marriage, government, and law. I must now try to make good this statement in regard to marriage, but must, at the same time, insist on the social meaning and value of a practice which of human institutions is, in a sense, the most fundamental of all. I say "in a sense" because it is in a very wide sense that marriage must be understood in order to warrant this description of it. In fact, every kind of socially recognized union between people of opposite sex that enables them by their joint efforts to produce and rear a family must count as marriage for the scientific student of mankind. In a way, man has been very free in his experiments in matrimony; so much so, indeed, that a cynic might question whether anything he had tried had quite come up to his expectations. Nevertheless, despite all these shifts in their mutual relations, the two sexes have somehow together managed to maintain the race all these many years; and that is something for which we may be profoundly grateful, if we are grateful for being alive at all. In short, marriage, as it must be understood for scientific purposes, amounts to nothing less than a biological necessity—to a manifestation of the life-force as it reaches its fullest expression in the human species. Our children cannot be left to themselves to grow up, as the young of some of the lower organisms can be left. The human infant must be fed and protected, and the fostering process must be carried on during a protracted youth. In a word, childhood in the human species is inconceivable without parental care. Parentage, however, and marriage mean much the same thing for the science of man.

But were the earliest parents individual man and wife, or was the parentage a more or less communal affair? This is a point on which controversy rages, and my advice is that everyone should study the facts and try to form an opinion of his own. Personally, I favour the view that the nucleus of human society has always been papa, mamma, and baby. In other words, I do not believe in a stage of society addicted to communal marriage and to a communal nursery. I doubt if any of us would be here if our ancestors had done their child-rearing by committee. No doubt a sort of communism prevails in the chicken-run. The human child, however, requires far more attention than the chick, and for a much longer time; and it is not easy to see how any but those who paired for the child-rearing period—that is, in effect for life—could normally prove equal to a responsibility so weighty. On the other hand, I freely admit that the social group as a whole takes a great interest in the children, and often removes them at a fairly early age from the parents' hands in order to initiate them in their tribal duties. Children are, in fact, the chief pride of the group and their most treasured possession; for they are the recruits to whom one day the veterans must turn for succour. Human society, however, is never so whole-heartedly co-operative as to be without the competitive element altogether. It happens, moreover, that among men, as throughout nature at large, the rivalries due to sex unloose the fiercest passions. Jealousy is not to be charmed out of existence by any social convention. The will to have and to hold for oneself seems implicit in the process of sexual selection. Thus there is plenty of evidence that savage folk fall in love, even as we do. I could even point to an Australian tribe where it is not the mere male who alone has a chance of exercising freedom of choice in the matter of a mate. On the contrary, the woman usually exercises the right of proposing. She says to the young man whom she favours: "What do you eat?" And if he answers: "Kangaroo steak, slightly underdone," or whatever his special fancy may be, that settles the question.

Let me add that among this same Australian tribe, the Kurnai of Gippsland, it sometimes happens that the unmarried girls in a body have reason to think that the young men are not so attentive to them as they ought to be. Thereupon they resort to a rather peculiar way of bringing the shy and backward youths to book. Each sex in this tribe has a totem of its own—namely, a special kind of bird which is its "friend," as they say. So the girls go out in a body and kill the boys' bird-friend, and the boys, being naturally indignant, retort by killing the girls' bird. The result is a free fight, in which the lusty young females use their digging-sticks on the pates of the youths for all they are worth, while the youths in their turn make playful digs with their spears at the girls' legs. The net result, we are told, is that all shyness wears away between them, and engagements become the order of the day. Let me add, however, that all the initiative does not lie on the side of the ladies. For in this very same tribe there is a kind of magician who specializes in elopements. A young man has only to go to him, and by his occult art he will cause the lady's heart to melt more and more until one day, whatever her parents may have decided about her future, she bolts off into the bush with her wily lover.

Here, then, are some reasons, and I could multiply them indefinitely, why, personally, I incline to regard human marriage as essentially an individual rather than a communal affair. I must now go on, however, to point out that primitive marriage, and perhaps, to some extent, all marriage serves a social purpose which is in so far inconsistent with the interests of the individuals who marry that one of them, the man or the woman, is bound to play second fiddle. It all turns on the question which kinship group is to get the benefit of the children. Are they to belong to the husband's people or to the wife's people? Which of the two family names shall they bear? Whichever way it is decided, it is bound to be a one-sided arrangement, leaving the parent whose function it is to contribute to the numbers of an alien group a little out in the cold. But someone may ask: Why should not both parents belong to the same social group? This question brings us face to face with one of the greatest puzzles of the science of man—namely, the origin of what is known as the law of exogamy or marrying-out. A primitive society is normally split into two halves, while often each half is in turn subdivided into a number of clans with distinguishing names of their own. These divisions rigidly govern marriage, and it is not only a legal crime, but an offence against religion—in short, an abominable sin—to marry within one's own group. Thus husband and wife are always, in some sense, strangers to each other, and one or other must stand by while strangers impose on the children their own special family tradition—their totem, for instance, with all the religious duties implied in such a relation to a particular animal- or plant-friend. As for the way in which exogamy may have arisen, the matter is too complicated to discuss at length, and I can only indicate my personal opinion that we are born with a natural tendency to fall in love outside the circle of those with whom we have been brought up very closely from childhood. If so, this tendency, making as it does for a salutary mixing of blood, would gradually become embodied in the social organization of the human stocks that have proved most successful in the struggle for existence. Such a custom of marrying-out, moreover, would not only have the effect of strengthening the breed. It would likewise knit society into larger and ever larger groups by promoting political alliances such as must inevitably extend the limits of kinly—that is, kindly—feeling.

But let me return to my former point—namely, that exogamy, by assigning the children to a group which is that of one parent only, causes the other parent to have the worst of the bargain. Now in our world it is the wife, if anyone, who might complain that her family counts for less in determining the social position and prospects of the children. Though modern society has done much to equalize relations between husband and wife, even so it would be true to say that a sort of father-right, as it is termed, normally prevails among us. Not that the opposite condition—namely, mother-right—is impossible under our law. If I choose to marry a rich wife who stipulates that we shall dwell in her palatial mansion, and that the children shall bear the historic name of her family, that would be mother-right to all intents and purposes. In such a case, moreover, it is pretty obvious that the lady and her people would have more to say than I should about the children's future. Now mother-right is fairly common among savages, though it does not often take the extreme form in which the wife remains at home with her people and the husband is hardly more than a tolerated visitor. I therefore do not see much ground for supposing, as some do, that this very one-sided system, in which the husband hardly counts at all, was the original type of marriage throughout the world. At any rate, both systems can exist side by side at the present day. In some of those more developed societies of primitive pattern, in which people have come to differ considerably in wealth, we sometimes find the poor man obliged to live with the wife's folk, at least for a time, while the rich man takes his wife home with him at once. The former method is, in fact, a way of acquiring the right to marry by service instead of by goods paid down. One usually hears the term "wife-purchase" applied to such arrangements, but that is not the savage idea at all. What is bought or earned is the right to own the children. Sometimes, for instance, the children born while the man is, so to speak, serving in the house of Laban belong to the family of Laban—that is to say, to the wife's house. As soon, however, as the man has worked off his debt by seven years' labour, or whatever the customary term may be, the children are his, and the wife, too, is more fully his, since henceforth she must follow his fortunes. Indeed, often under extreme father-right she becomes in marriage so entirely part and parcel of the husband's group that, if he dies, a brother or other member of his kin takes over the widow; the children of the later union being, however, sometimes treated as if they were the dead man's offspring.

Let me, in conclusion, say that from the earliest times marriage has been regarded as a sacrament. Primitive religion is quite capable of conceiving matrimony as a holy state. The birth of children, in which lies the hope of the future, is for the whole community a solemn mystery; and every stage of parentage, from betrothal to the baptism or initiation of the child, is marked by sacred rites, the object of which is to secure a blessing, or, what amounts to the same thing, to ward off evil influences. Half the ceremonial of a modern wedding, from joining with a ring or wearing a veil, to throwing rice or an old shoe, consists of survivals of ancient practices, all of which once were full of serious meaning, as, indeed, the use of the ring still is. No longer, however, do we go the length of causing bride and bridegroom to exchange clothes as primitive folk sometimes do, perhaps to symbolize their union, but more probably to serve as a disguise against the powers of evil. Indeed, one has only to read such a book as Dr. Westermarck's *Marriage Ceremonies in Morocco* to see what a host of peculiar customs are called into existence by the need of averting evils or securing blessings in connection with a wedding. Not only must both bride and bridegroom be protected from evil influences as being in a spiritually delicate condition; it is equally necessary to secure by special ceremonies that the union shall be lasting, that there shall be children in plenty, that there shall be domestic peace, even that the wife shall not be a spendthrift, or, again, that her mother shall not interfere too much in the affairs of the young couple. There are likewise minor rites intended to bring about that the wedding shall be attended by many guests, or, again, that the unmarried portion of the said guests shall themselves be married soon, since a wedding is always regarded as the potential source of other weddings—as, indeed, in my experience it is. Many other things could I relate about marriage customs—how, for instance, the unfortunate bridegroom in Morocco has to submit to a ceremonial shower of stones—I presume because he engaged in a sort of symbolic capture of the bride. He gets a little of his own back presently, however, because when the couple reach home, he is expected to give his bride a symbolic beating, or even to kick her gently, by way of giving expression to a notion equivalent to that of the word "obey" in our marriage service.

But my space is limited, and I can only hope that on a vast subject I have said enough to show the fundamental importance for mankind of those age-long institutions, marriage and the family.

CHAPTER VI

GOVERNMENT: HOW AUTHORITY AND LEADERSHIP ARE ESSENTIAL

IN my last chapter, which dealt with marriage, I tried to show how there was a religious as well as a social side to its development. Exactly the same is true about my present subject, the evolution of government. Now, one is apt to think of the savage as an ungovernable person, and perhaps in a sense he is. Some savages, indeed, are of a very mild disposition, but others are as fierce as wolves; our own ancestors, I may add, almost certainly belonging to the latter class. Unbridled passion, then, may seem to be a primitive characteristic so long as we consider solely the fighting savage in his relation to the enemy. But in relation to his own folk even the most ferocious of them is another person. Indeed, the fighting man probably appreciates better than anyone else the need of discipline. The principle that union is strength holds even for the wolf-pack, as Kipling brings out so well in *The Jungle Book*. I would therefore go so far as to say that a primitive community has to be uncommonly well governed to exist at all, and that actually the average savage is thoroughly loyal in his devotion to duty as he understands it. Our difficulty, however, is to discover how this can happen, seeing that in many cases the machinery of government is hardly in evidence at all.

If one takes a surface view of primitive life, it looks as if the people did what was right of their own accord without the aid of pastors and masters spiritual or lay. In that way one might easily slip into the fallacy of supposing that savagery is the survival of a golden age of innocence which it costs its happy inheritors no trouble whatsoever to maintain. If, however, the believer in this charming state of things could suddenly be put into the midst of an Australian tribe, and compelled to undergo the training whereby each fresh generation is initiated in its duties towards the community, he might wish himself well out of his imagined golden age of spontaneous virtue. Such virtue as the rising generation acquires costs it no end of privation and positive pain. One might almost say that it is bullied by its elders into a state of passive obedience. I do not say that the bullying is done consciously. In fact, in all cases something painful happens to the boys because their elders think it will be for their ultimate good. "After all," they argue, "exactly the same things were done to us in our youth, and see what respectable folk we have become!" So in Australia they toss each boy high into the air with the help of an opossum rug (just as boys at school toss each other in a blanket). This is done to make the boys grow tall, on the magical principle that like produces like. Or again, in aboriginal Australia a bushy beard is much admired; so an older man whose crop of hair was plentiful goes round and repeatedly and severely bites each boy's chin and scalp to pass on to him this hair-producing virtue. I need not go into all the other painful things inflicted on the unfortunate novices for their good—the knocking out of a tooth, the scarification of the skin, and so on. These various practices doubtless have their special significance, mostly of a magical kind, but the net result is to make the boys feel the heavy hand of society, and hence the need of conforming to public opinion. Even with us a boy entering a new school has usually to submit to some initiation rite not wholly pleasant as a way of gaining his footing, by acknowledging the authority of the group over the individual. So, too, then, everywhere in the primitive world where puberty ceremonies are held—in Africa and America, for instance, no less than in Australia—those who preside over the training of youth have powers of life and death, which they do not hesitate to use. Moreover, the whole process of instruction is accompanied by sacred rites which awaken an emotion even deeper than fear—namely, awe. Thus in one Australian tribe the image of the god who founded these mysteries used to be set up, and the boys were told that he could go everywhere and see everything; so that woe to him who broke his commandments. Hence, if an Australian youth was turned in the long run into a well-disciplined and loyal tribesman, it was not without a severe course of drill supplemented by an appeal to all that the tribal conscience deemed most holy. Nay, the best proof that all this licking into shape is necessary is that, whenever contact with the white man causes such initiation ceremonies to be abandoned, the nerve of the tribal morality is apt to be cut; so that the final result is degradation or utter extinction.

Now, how do the old men obtain all this authority over their juniors? For, of course, if the younger warriors chose to oppose the will of their elders with their weapons in their hands, they could undoubtedly make it awkward for the grey beards who constitute the tribal council. But among savages such a revolt of youth never occurs. The rising generation bows down before the superior experience of those who have lived longer. "Respect the old," says the African proverb, "because they have looked into the eye of the morning"—because they were up earlier, so to speak. The elders are the books of the tribe; they are the only link with all that has gone before; they speak with the authority of the law and the prophets. In the chapter on religion I spoke of the primitive notion of *mana,* or mystic influence. Well, it is in terms of *mana,* or some equivalent conception, that the savage usually construes the authority of the tribal elder. He views it as essentially a spiritual authority, a power to control the tribal luck, to ward off evil influences, to bring blessings on him that is faithful to the law, and a curse on him that defies it. In his own eyes, too, the primitive ruler, whether elder or nearer to a paramount chief and what we might call a king, administers a sacred office. He stands between the rest of the community and the unseen powers as a mediator whose success in promoting the common good will be in proportion to the strictness with which he regulates his own life. In virtue of his holy function, he himself is holy, and must preserve his holiness fresh and intact for the sake of the public welfare, at the price of austerities and abstinences which cannot but be personally inconvenient. Had I more space at my disposal I could mention a thousand different kinds of taboo, or spiritual precaution, to which the primitive king is subject. For instance, he must never cut his hair or his nails, and, indeed, any washing or cleansing process whatever is possible only under the most limited conditions. As regards food, drink, and creature comforts in general, he has, of course, to be most careful. In the matter of locomotion, again, his freedom is restricted in all sorts of ways. He may be prohibited altogether from leaving his palace. Or, even if this is allowed, he may nevertheless be prevented from touching the ground with his foot, may not cross a river except he be blindfold, must have a large umbrella held over him to shield him from the sun, or possibly to shield the sun from him, must never pass under a tree or anything that casts a shadow, and so on and so forth. The point is that anything that happens to him will likewise affect the whole community of which he is the representative. When he is on his throne, for instance, the less he moves the better, since his immovability brings about a corresponding tranquillity in his kingdom. No wonder, then, that, humanly speaking, it was not an amusing job to be king, and we hear of primitive communities—for example, Sierra Leone, in West Africa—where likely candidates for the throne were apt to bolt into the bush in order to escape election. Or again, sometimes—as, for instance, at Tahiti in the Eastern Pacific—the king was wont to resign office the moment an heir to the throne was born, finding that as regent he had a much freer hand; while his infant son was probably more ready to put up with the taboo of lying in his cradle—though I dare say he, too, felt it irksome at times and protested accordingly. The popular notion of the savage ruler as a cannibal version of old King Cole, with unlimited lusts that he satiates at the expense of his subjects, is quite absurd. Of course, men are men, and all of us fail at times to live up to our station and its duties. I believe, however, that custom is too strong with primitive folk for any of them, least of all the leading men, to show open disregard for the obligations that it imposes. Their code may be a queer one in our eyes, and we might deem the holy man anything but righteous according to our standards; but to that code of his he sticks pretty closely, and would soon lose his authority if he did not. Indeed, anyone who is acquainted with that wonderful book *The Golden Bough*, by Sir James Frazer, will bear me out when I say that the divine right of kings in its primitive form is a right to serve and to suffer for the good of the people.

Those "strange stories of the death of kings" which Sir James Frazer unfolds for us would, in fact, be unbelievable if they did not happen to be true. In many parts of Africa, for instance, the king is or was a symbol of the public health and strength, which symbol must never for a moment display a failing of its own health and strength lest the weakness be passed on to the thing symbolized. If the king grew weak, the crops would wither, whereas the face of nature would smile so long as his did. In short, if his constitution broke down, the constitution of the realm was endangered. With stern logic, therefore, his subjects argued that, before enfeeblement set in, he should be put away and his sacred power transferred intact to a successor. Strange as it may appear to us, there seems, on the whole, to have been little trouble in filling the vacancy. With his eyes open to his inevitable fate, the new king bowed to custom and allowed himself to be invested with the regalia that dedicated him at once to social service and to the sacrifice of his life. Thus when we hear likewise from Africa of humbler mortals seemingly done to death at the whim of their lord—as when one potentate kept his ancestors abreast of the latest news by messengers whose heads were cut off in order to send them on their ghostly way—we must not forget that royalty itself was not exempt from the happy despatch. Proudly the messenger stood stock still to receive the blow that would assuredly send him into the presence of the mighty dead. Even more proudly, then, would the leader of men suffer translation, to be henceforth free of his weak body that betrayed him and to rank among the guardian spirits of his nation.

To pass on to another topic, it will have been noticed that hitherto I have alluded indifferently to Australian elders and African kings as if there were no great difference in the type of government that they represent. Let me go on to explain, therefore, that, although they are alike in one respect—namely, in deriving much of their authority from religion and being, so to speak, heads of Church and State in one—they are far from being alike in respect to the kind of society over which they rule. Thus the Australian elder has to do with a clan system and the African king with a class system; and the character of the government varies accordingly. A clan system is, so to speak, democratic in its way of managing its affairs. In Australia, for instance, each petty group carries on under its own elders without much regard to what the other groups may think or do, and, in fact, is often at loggerheads with its neighbours. Nevertheless, tribal gatherings occur from time to time, mostly in connection with religion, as when initiation ceremonies are held; and on such occasions the heads of groups assemble in a sort of informal Parliament, which exercises a good deal of authority and can even bring about important modifications of tribal custom. Or, again, in North America, where we find a clan system of a more evolved type, a regular rising scale of regulative assemblies has been instituted. Starting from family councils and clan councils, it goes on to tribal and even federal councils, as in the cases of the famous League of the Five Nations, which united the representatives of five Iroquois tribes in a sort of international board.

On the other hand, a class system, which always implies an uneven distribution of wealth, and is often due to conquest and the predominance of one racial element over another, tends to favour aristocracy, with some form of monarchy as its natural outgrowth. Thus in Polynesia nobles and commoners differed greatly in status, and the *mana,* or mystic power, inherent in the noble and all that belonged to him gave him an immense ascendancy over his social inferiors. If one of them, for instance, violated the property of a noble or even ate a bit of his food by mistake, a curse automatically fell on him, and, as like as not, thanks to suggestion, he lay down and died. Or, again, if a noble entered your house and used your furniture, you, if a commoner, had to make him a present of your belongings, as you could never use them again. As for monarchy, which had come into being only in Eastern Polynesia, it was of what one may term the feudal type. The king had nominal authority over his nobles, but he must go easy with the greater lords lest they should conspire to dethrone him. In Central Africa, however, we find monarchs whose power is almost absolute, were custom not so much more powerful still. Here slaves in large numbers constitute the lowest class, their lot, however, being not very hard except in so far as their lives are at the mercy of their masters. Of the freemen the government officials form a dominant section, but the official must satisfy the king, or he will be quickly degraded. Under such a system as used to prevail, and, indeed, in most respects still prevails, in Uganda, government could be very efficient, and it may be doubted whether many medieval states of Europe were, on the whole, better off in the way of law and order. Of law, however, in its relation to government, I must keep what I have to say for the next chapter.

CHAPTER VII

LAW: HOW SOCIAL ORDER DEPENDS ON ENFORCEABLE RULES

WHEREAS the leading men in a savage tribe undoubtedly have powers of life and death over the rest—as, for example, the youths who behave badly in an initiation, or women who pry into the mysteries, have reason to know—yet the real source of their authority is the sacredness of custom. To defy them is to defy the unseen powers with which they are in touch—powers that will not suffer the tribe to depart from its well-tried ancient ways. State and Church are one, and to be a criminal is to be likewise a sinner—one who both is himself accursed and is liable to bring down a similar curse on all who have to do with him. Thus every primitive code of laws is so far like the Laws of Moses that the religious and the lay sides of the social life are regulated together. Or to put it in another way, the legal sanction—the compelling authority behind the law—is at once human and divine. Here, men say, are a set of rules which cannot be violated except at the peril of body and soul alike. The leaders of society must get rid of the law-breaker, not only on the common-sense ground that the public does not want a dangerous character in its midst who may at any time break out again, but also for the deeper reason that the community must keep itself spiritually clean. The primitive view of sin is that it is catching like a disease. And, of course, insubordination really *is* catching, more especially in a society that lives by imitation and unwritten tradition. In short, men feel that if sin be committed there is a plague abroad, which must be wiped out by wiping out the sinner. No wonder, then, that the savage is so remarkably law-abiding. Behind his customs is an authority resting on the firm belief that nothing will go well, here or hereafter, if men abide not by the ways of their forefathers, but throw off discipline and do severally what is most pleasing in their own eyes.

So much for the binding force, half constraint, half consent, that renders the law operative. Let us next consider the procedure by which its operation is directed. Sometimes this procedure is fairly straightforward, even in loosely organized tribes such as we get in aboriginal Australia. If the crime is of a kind held to bring pollution on the whole society—the abominable sin of witchcraft, for instance, or breach of the sacred law that bids a man marry outside his kin—then the elders of the tribal council form the court that sits upon the case; and at their command a band of younger men goes forth, spear in hand, to carry out the decision. Or sometimes the whole community punishes the guilty in what has been called "a wild spasm of wild justice." Here is a case from the usually mild and peaceful Eskimo. A man has married a girl whom it is unlawful to wed because she is a near relation. The guilty pair are inside their snow-hut. Suddenly the rest of the settlement collect and stamp in the roof, and that is the end of them. Sometimes, however, the crime is reckoned to be the concern, not of the tribe as a whole, but rather of a particular section of it. A case in point is when a member of one clan has been slain in a quarrel with a member of another. The tribal council takes no cognizance of such inter-clan affairs, but the two parties must hammer out the matter between themselves as best they can. Now these groups, semi-independent as they are, have much in common, being interrelated by marriage and having the same customs. Between them, then, there can never be downright war, but conflict will take a legal form, inasmuch as it will be governed by rules tending to keep it within bounds.

Thus when the clans agree to meet and have it out together it may end in a duel between the accused and a representative of the injured group. The worst of a duel as a way of settling such a dispute, however, is that the wrongdoer may well add a second death to the first, thus actually increasing the grievance of the other side. This, for instance, was the weak point of the so-called "judgment of God"—namely, the wager of battle, by which disputes were often settled in this country in the Middle Ages. From the standpoint of justice, then, there seems more to be said for that one-sided kind of duel usually known as atonement by self-exposure. Thus often in Australia the accused, armed with nothing but a light shield, stands up to receive as many spears as the prosecuting side, letting fly one by one and after due warning, feel inclined to throw at him. If he succeeds in dodging their shots, as usually he does, he is quit of further trouble. The avenging clan, having worked off their angry feelings, make it a point of honour to let the matter drop. An even odder way of working off one's wrath is for accuser and accused to confront one another, each with a stout wooden club in his hand. In sporting fashion the accuser puts his head down first, and receives a terrific thump. Luckily their skulls are thicker than ours. Then it is his turn, and he does his best to go one better on the head of the other party. And so they proceed till both are tired, when, as they put it, their hearts become cool, so that friendly relations are completely restored between them. I rather think that in my day a very similar philosophy prevailed among schoolboys—namely, that, when tempers had mounted high, the best thing to do was to "have it out and be friends."

In this respect, however, Australia would seem to be morally in advance of many peoples whose culture is otherwise much higher. Blood-revenge, or, as they call it in Corsica, the vendetta, is a custom that dies hard, and was well known to our own ancestors so long as any sort of clan system survived among them. Yet among them the principle of "blood for blood" was rendered less harsh by conventions that contain the germs of law and justice. Woe, indeed, to the alien murderer of a kinsman if one caught him red-handed, or if the deed was foully done. On the other hand, at this stage of society when wealth was beginning to accumulate, the payment of a blood-fine would in normal circumstances be accepted as a quittance. The price was for the times a heavy one, and must be collected from the members of the guilty clan so as to be shared by the kinsmen of the victim. Hence the laws of the early Saxons, Scots, Irish, and Welsh are largely taken up with regulating this complicated business of blood-fines or were-geld. Now for obvious reasons it is a nuisance to third parties, and in general a hindrance to the stability and welfare of society, that the country should be torn with endless feuds. Whenever, then, the central government has acquired sufficient strength, as happens more especially when a clan system of the loose and, so to speak, democratic type gives way to a class system with a supreme chief or monarch at its head, the tendency is to intervene more or less forcibly between the families or other groups that are at feud. This process by which public justice is substituted for private justice—as the latter is termed, though perhaps it hardly deserves so respectable a name—is of course gradual. Often the chief or king is no more than an arbitrator, who proposes the terms of a settlement, but takes no steps to see that they are carried out. In proportion, however, as the central authority is strong, it becomes dangerous to neglect his advice. Further, apart from his interest in maintaining the king's peace for the benefit of his subjects, the monarch is personally not insensible to the value of court fees. So by degrees the theory that the shedder of blood is a felon, whose property, as well as his life, is forfeit to the State, gains ground at headquarters, to the utter discouragement of the feud as a popular pastime.

Now, though his office brings him certain perquisites, the supreme chief in his capacity of judge is, on the whole, impartial, having no more to do with the one than with the other side of the average dispute arising between his subjects. According to his lights, then, he may be expected to provide those who come before his tribunal with a fair trial. I say "according to his lights," because the primitive judge is apt to transfer the responsibility of a just sentence to supernatural means in which we may no longer believe. Thus the ordeal is a typical method of justice whereby the detection of guilt is invested with a mystic guarantee. Sometimes both plaintiff and defendant have to undergo the same nerve-shaking test, to plunge the hand in boiling water, to touch red-hot iron, to drink a more or less poisonous potion, or whatever it may be. Possibly a conviction of being in the right confers immunity from damage in some cases, but, be that as it may, it seems to me that the double ordeal must act as a powerful check on superfluous litigation. Ordinarily, however, only one party—namely, the accused—is required to face the miraculous verdict, and sometimes it would seem the conditions are so arranged that trial and inevitable punishment merge in one. Our own ancestors, for instance, were wont to duck the suspected witch in water, and, if she swam, it was evident that the pure element refused to receive her; so that, instead of being drowned, she was burnt. As for the oath, which is still a feature of the modern court, it has something in common with the ordeal inasmuch as it is a conditional way of calling down the vengeance of heaven on the perjurer. When a Chinaman in a London police-court breaks a plate instead of kissing the Bible, he is virtually saying: "If I lie, may I be likewise destroyed." So, too, our ancestors would swear on "cold iron"—as the North American Indians still do—thus invoking a violent death on themselves if guilty of perjury.

So much, then, for the subject of procedure, or, as the great jurist Bentham called it, "adjective law." I must say something in conclusion about the primitive forms of what he called "substantive law"—namely, the mass of social rules that either define such relations as are deemed just between the members of a community, or else take means to prevent the violation of these relations. In other words, both a civil law and a criminal law are needed to establish and preserve each and all in their civic rights; and of both these types of substantive law the germs are to be found in the simpler societies. Thus, as regards civil law, which is essentially a law of persons and property, determining how each stands to the rest in respect of the station that he occupies and the goods that he owns, one might almost say that the savage has too much of it, so rigidly must his social life conform to the condition into which he happens to be born. King, noble, commoner, slave, husband, wife, child, have each a fixed status, with corresponding rights and duties no less unchangeably regulated. In particular, the obligations of kinship and the marriage-system keep a savage busy from morning to night. He must never forget to address his second cousin on the father's side by his proper title, or to pretend not to see his mother-in-law when she happens to pass.

For the most part, too, kinship and marriage determine ownership, and the disposition of property. Land, in particular, is nearly always a family possession in which the individual has no more than a life interest. That, by the way, is the reason why even in modern law the conveyance of real property is hedged round with precautions—namely, that there shall be full publicity, so that no one interested may have his rights overlooked. Quite recently in England conveyance had many picturesque accompaniments, such as handing over the turf in the case of an estate, or the wooden latch in the case of a house. Indeed, freedom of bequest hardly applies even to earnings, since a man's kin can usually claim a share, and, where mother-right prevails, may sometimes take the lot; the wife and children, who belong to another kin, getting nothing. Let me add that the civil law of savages finds no problem harder to solve than the adjustment of the relations between the husband's and the wife's people in all that concerns property. Divorce proceedings furnish a typical case. A man, under father-right, pays ten cows, let us say, for the privilege of marrying a wife who will bear children to him and his kin. She fails to do so, and he sends her home, asking to have his cows back. The girl's kin are sure to make difficulties, and the matter comes before the chief. Probably he satisfies all parties by deciding that the late wife's younger sister shall be sent to take her place.

As for the other branch of substantive law which has to do with the prevention of crime, I have already touched on the subject incidentally when dealing with procedure. The main point to grasp is that certain offences against the state or against religion, treason for instance and witchcraft, always involve punishment by the society as a whole acting through its leaders; whereas another class of offences, such as theft and for the most part homicide as well, are for a long time left to be redressed by private vengeance, and are only by degrees brought within the jurisdiction of the central authority. In some parts of Europe private justice, in the shape of the duel, is by no means even now extinct.

CHAPTER VIII

COMMUNICATIONS: HOW CULTURE DEPENDS ON INTERCOURSE

CULTURE, as I have already said, is communicable intelligence. It consists in thoughts, feelings, and activities that can be shared. So far as it can be credited with a separate nature of its own, it may be said to exist between minds rather than in them. Now, in the strict biological sense, only the individual mind is subject to evolution as determined by heredity and natural selection. Culture considered apart from the minds that participate in it develops differently—namely, by a process of expansion. Its function being simply to promote mental interaction, its value can be expressed in terms of its communicability. In its material no less than in its oral forms culture is, then, as it were, the language of social life, the sole medium for expressing the consciousness of our common humanity. It follows that the best clue to the history of culture is the study of its various manifestations as they severally and together depend on improved communications of various kinds. These kinds can, in the next place, be reduced to two, if we broadly distinguish internal from external communications—those that occur between the members of a given society from those that take place between them and the rest of the world. The distinction is all the more needful to draw because the trouble with primitive folk—the fact that keeps them backward—is not so much that they fail in mutual understanding of each other as that they remain shut up within their own narrow circle and cannot get into spiritual touch with their neighbours.

Attending, then, first to the subject of internal communications, we must be prepared to recognize the beginnings of culture even in those very inarticulate relations that prevailed in the cave-man's den. Living cheek by jowl as its inhabitants did, silent imitation would suffice to propagate useful habits among them. Technical processes, such as lighting a fire or trimming a flint, would be faithfully copied. Again, emotional states would be intensified by contagion, and in full concert must the group have screamed defiance at the cave-bear or howled over the body of a slain kinsman. Nay, since there is evidence that they buried their dead with ceremony, their culture presumably included some nascent sense of communion with the generations that were gone. If on the other hand we turn to such savages as exist to-day, we find them one and all to be fairly well equipped in the art of effective speech, and by this means able to extend considerably their system of social relations. Though it is a mistake to suppose that all primitive folk are organized in tribes, yet at the stage of society when food is wholly or mostly got by hunting the tribe is normal, being essentially a union of inter-marrying groups using a common language. The political cohesion may indeed be otherwise slight, but there is always the power of talking things over together to serve as a consolidating force. Of course, much must depend on the nature of the tribal territory. In an area where food is plentiful the associated bands will tend to remain in close touch; whereas, scattered about in a desert or along a strip of barren coast, they are bound to see less of each other. Sometimes, too, concentration will vary with the season. When the arid wastes of Central Australia enjoy the infrequent rains that clothe them with sudden verdure as if by magic, the wandering bands can assemble to hold high holiday; and this festivity is accompanied by solemn mysteries that, whatever else they may be intended to accomplish in a wonder-working way, certainly serve to renew the social tie, translated as it thereby is into terms of spiritual brotherhood. Or, again, an Eskimo winter, so long at all events as the stored provisions last, is a sort of prolonged Christmastide, when there is time to spare for those ceremonies and shows that form the most potent ingredient in the culture or social tissue that makes the community organic.

Internal communications, however, always have a focus somewhere within the wider limit of the tribe, where the sentiment of fellowship is maintained at its fullest warmth by daily and hourly contact. One might call it the fire-circle, the primitive equivalent of our "home." As a matter of fact, however, it is not always easy for the observer to tell offhand in what direction such homelike conditions are to be sought, so different is savage life from ours. Thus often the two sexes for most social purposes keep apart, so that from the moment the small boy leaves the women's camp he is largely committed to male companionship for the rest of his existence. His particular mates, of course, will be those of his own age, and they may be actually regimented by custom into classes with duties and privileges applying to one and all. Clanship, again, makes for a quasi-domestic relationship, at all events between clansmen who belong to the same local group and need not be summoned from a distance before they can consult and act together. Moreover, the clan is usually possessed of sacred rites of its own, which, as also in the case of the secret society, adds a mystic sanction to the obligations of brotherhood. Various, however, as are these forms of intimate association within the primitive society, we may take it that there is always some supremely formative influence at work consisting in an intercourse inviting constant and immediate intercommunication of habits. Since there is little or no privacy, a mobbish type of mental life prevails, corresponding to the condition of physical contiguity in which a man and his mates spend their days and even their nights. They hardly need to talk among themselves, so well can they catch each other's words and intentions.

This means, however, that culture consists in common gestures, as it were, rather than in common thoughts expressible in clear language. Thus the moral horizon is determined by the range of the eye. Almost literally, out of sight is out of mind. Actual meeting is the only means of maintaining a none too enthusiastic friendliness between the various sections of the tribe. Very necessary in the interests of social solidarity are, for example, those visits of ceremony which local groups in Australia are wont to exchange. Incidentally, these afford one a good idea of the mixed state of their mutual feelings. The parties approach each other as cautiously as a couple of strange dogs. It is, in fact, etiquette to begin by growling at one another, so as the sooner to get it over and allow good will to supervene. The correct thing, therefore, is to open proceedings by firing off a volley of insulting questions. Who behaved disrespectfully at his mother-in-law's funeral? Who on that occasion cut his head with so little conviction as hardly to draw blood? . . . And so on. Naturally, such remarks are resented, weapons are brandished, and it looks as if it must come to a fight. Convention, however, decrees that such preliminary quarrelling should not go too far. Having worked off their repressions in symbolic fashion, the visitors and their entertainers may settle down with clear consciences to enjoy a pleasant evening. Seen close at hand, their speech-fellows from a distance turn out to be not so different from themselves; marriage connections and ties of clanship are reinforced by bodily proximity. In short, a spirit of neighbourliness invades their hearts, which may stand them in good stead later on if it happens that real enemies, men of a wholly alien culture, threaten to sweep them out of the land, and nothing but common action will avail against the common danger.

To pass on to the other kind of communications classed as external, enough has already been said to indicate that such externality is always a matter of degree. In a loosely organized society of mere hunters, whose way of life entails considerable dispersal, there is little cohesion; and, apart from the occasional gatherings already mentioned to which custom imparts a peaceful character, constant bickerings occur which tend to reduce normal intercourse to a state of regulated, and hence mitigated, warfare. The Australian natives have, for instance, an incapacity for recognizing the fact of natural death, which causes them to attribute every loss within their own group to the evil magic of the next group living somewhere away in a direction which the diviner has no difficulty in pointing out. Off goes the avenging party, and the only mitigating rule as between members of the same tribe is that, in place of a general scrimmage, some kind of quasi-legal form of combat is apt to ensue—a duel, or, perhaps, an act of expiatory self-exposure on the principle of standing up to be shot at and dodging if one can. From such regulation of conflict within the tribe to the beginnings of an international law such as governs the relations of alien enemies is but a step. True, there may be war to the knife, as when a body of invaders, with famine or fear pressing on them from behind, sweeps down like a swarm of locusts with destruction in its train. When, however, a certain equilibrium exists between separate societies, warfare often takes on the character of an almost friendly rivalry, a competition in knightly daring and skill, and many courtesies arise to soften its rigours. Stout warrior as he was, the Maori chief was preoccupied with the ceremonial of war, and neither bloodshed nor loot interested him so much as the niceties of chivalrous behaviour. For the rest, war breeds mutual respect whenever there is any sort of equivalence between the forces matched, and thus, paradoxical as it sounds, is often the harbinger of a stable peace. Peacemaking has its own most binding conventions, and the law that the person of the ambassador is sacred goes back to very primitive times. To stop fighting would seem to be a natural function of woman, who in Australia not only interposes in the quarrels of her own men-folk, often be it said to her own detriment, but acts as official envoy when strangers have to be approached.

Self-centred, however, as the early society is apt to be, it ceases to be self-sufficient as soon as its wants exceed in any way the bare resources of its own narrow habitat. Man, moreover, at every human stage of his career, has exhibited a taste for the superfluous. One might almost say about him that, given the luxuries, he is prepared to dispense with the necessities of existence. He can live uncomplainingly day after day on the same food, the seeds and roots which his wife collects eked out with the meat which he secures on his lucky days; but he must have the red paint that only the foreigner can supply, even if it means bartering a good part of his supper in order to get it. At this point the need of effective communications with the rest of the world makes itself acutely felt. The silent trade, as it is termed, is not a very convenient way of conducting business, since what you lay out on the barter-stone may not be what the other man lurking in the bush is after; and, even if it is, he may deposit in exchange something totally inadequate whether in kind or in amount. Further, when the aboriginal mind sets to work in Australia to get over this difficulty, its logic is from our point of view so crazy that the remedy proposed seems almost worse than the disease. A woman go-between exchanges the navel-cord of her son with that of the son of a woman of the other tribe. Then the two sons are sacred to each other, and they meet without mutual risk so as to hand over their wares directly. Unfortunately, to be thus sacred to each other carries with it the obligation not to talk to each other; so that the trade, though handled with greater despatch, remains just as silent as before.

When at length, with the development of navigation and other means of transport, a more intelligent and extensive commerce comes into being, a system of signs whereby transactions can be accurately recorded becomes the key to success. Magical reasons may have originally suggested that the material thing could be dealt with by means of the pictured symbol. Be this as it may, the communication of meaning as such by pictographs, syllabary, or alphabet was the outcome of long experiment, such as was by no means confined to the world of trade, though in no sphere of practical interest did it prove more useful. War and commerce in conjunction are doubtless responsible for the breaking down of most of the barriers that kept men apart so long as everything beyond the light of their own fire-circle seemed unhomely, unsafe, full of bogeys that boded ill. Partly yielding to pressure, as the world became more crowded, and partly because their tastes enlarged with their opportunities, they were gradually led to compound experiences and establish a common culture on which each could draw for what appealed to him most. If one tries to lay a finger on the point at which savagery evolves into civilization, it must be wherever a literary is substituted for an oral method of communicating ideas. Word of mouth wisdom has indeed proved of infinite service in its day. By sheer folk-memory man can preserve a sense of the past that lifts him above the rest of animal creation as a maker of history. But thanks to the arts of writing and reading the human intelligence is lifted to a new plane of timelessness, where the living and the dead can meet to converse together far more rationally that any Witch of Endor could profess to bring about. A book may contain more culture than a city, if culture be the process of bringing minds together.

The anthropologist, then, is justified in devoting much of his attention to the development of external communications, those currents of cultural diffusion which, starting from some centre of intensive life, sweep over the world, so as to carry to its utmost corners the seeds of fresh institutions. There must, however, be fruitful soil in which such seeds can germinate. In other words, culture can spread only so far as it is assimilated. There must be selective interest on the part of the learner. Hence the subject of internal communications, in other words, the question of the degree of common mental life to which a given society has attained by its own efforts, must not be neglected by the anthropologist, lest he miss the all-important point that communicating is always a give-and-take affair. No educative process is so one-sided that the pupil does not react upon the teacher. A corollary is that the backward peoples of the world need to be allowed a certain freedom of choice in adjusting their ideas to those of the dominant civilization. Culture is no mechanism, no steam-roller. It is the live product of the interaction of mind with mind, stimulating each to fuller self-expansion through participation in interests common to both.

CHAPTER IX

PROPERTY: HOW IT IS THE INSTRUMENT OF PERSONALITY

When the philosopher contemplates human affairs, he selects for notice such institutions as he deems to be typical, and tries to assign to each an ideal function. The anthropologist, on the other hand, uses an historical method—that is, takes life as it comes. He describes the wild plant, naturalist fashion, whereas the philosopher is seeking how to train it so that it may adorn the garden of reason. Now, of all human institutions none is more typical than property. The verb "to have" comes next in importance after the verb "to be." A man who has nothing amounts to nobody. Even to be "just a body," as the Scots say, one must have air, food, standing-room, and so on. Starting, therefore, from this conception of property as the means of keeping the body alive and in working order, the philosopher treats it as a sort of extension of the body, and hence of the self which owns the body. For the body, in its turn, might be regarded as the property of the soul or self. Physically it is of one substance with surrounding bodies, but it is nevertheless a part of the environment that has been enlisted on the side of the will, so as to help it to control the rest. Similarly, then, all the material aids that we class as property may be treated, for philosophic purposes, as the limbs of a greater body, through which each self makes organic connection with the world of things, in order that it may thereby attain a richer experience and fuller consciousness. Thereupon the philosopher goes on to assume that the ideal function of property, conceived as an enlargement of the bodily mechanism, is that of enlarging the soul—developing the personality; and he would regard a rich man whose spiritual range falls short of the extent of his wealth as a giant with the soul of a dwarf—as like one of those small-brained dinosaurs whose huge bulk, uninspired as it was by intelligence, could not save it from ultimate extinction.

It remains to be seen, however, whether history can justify this view of property. For if property exists simply in order to further individual self-realization, two consequences would seem to follow. Firstly, property could not be held in common. One's personality is one's very own, and this is also true of one's body. If, then, collective ownership is anything more than a legal fiction, the analogy between the body and property as a physical extension of it would break down. That it may be only a legal fiction, however, is rendered probable by the fact that in psychology constant use is made of the notion of a collective self or soul as a convenient peg on which to hang the facts relating to intercourse with all its peculiar mental effects; but few thinkers are prepared literally to attribute a soul to a city corporation, still less to the casual crowd that gathers to watch a dog-fight. Secondly, if property is but a medium for self-expression on the part of the owner, it would follow that it must be in constant use. Such a theory might appear to deprive the prudent parent of his cherished right to put by in order to hand on. For either a collective interest in the family possessions must be a fiction, a shorthand way of stating the facts about a number of persons, each with a self of his own; or else the connection between property and an extended activity as the condition of personal self-development cannot any longer be maintained. What light, then, does the study of savage life throw on these difficulties? Now, man was in existence long before there were philosophers to tell him how he ought to live, and so we may expect his practice to be more mixed than any theory can afford to be. At the same time, economic evolution and moral evolution have followed certain main lines that can be compared together. The argument which brings property and personality together as means and end must conform to the historical process in at least a general way, if there is to be any value in it at all.

To test, then, in turn the two consequences flowing from the doctrine that the true function of property is to minister to personality, what, firstly, is the verdict of history on the point that no property can be held in common? Surely, it will be said, the example of the savage is all to the contrary, since he is more or less completely a communist. Now, this is very true in a superficial way, but the so-called communism, on closer inspection, turns out to be combined with a good deal of nascent individualism. Thus, in the first place, the primitive communist adopts a thoroughly individualistic attitude towards outsiders. Trespassers are duly prosecuted. Mankind as such has no common right to the use of the earth's surface. Each hunting tribe patrols the boundaries of its beat in a spirit of the most aggressive landlordism. Within the community, again, subordinate groups are apt to set up a more or less exclusive claim to their own haunts; and, though fellow-tribesmen may pay visits so long as they are otherwise on friendly terms, the welcome involves all sorts of formalities. Indeed, although it is necessary to be able to range about somewhat freely for hunting and collecting purposes, as well as for those of the purely pastoral life, favoured spots are objects of competitive appropriation on the part of sections of the population, even single families. Thus in nomad Australia, if this island in the swamp is where the wild swans lay their eggs, or that hill is where red ochre can be dug for, the neighbouring camp is sure to constitute itself prime guardian and exploiter of the treasure.

On the other hand, it must be admitted that, while the collectivism of the hunting peoples is confined in practice to the narrow circle of those who are in daily contact with each other, it is, at any rate, thoroughgoing as regards the all-important matter of the sharing of food. It might be supposed that the individual hunter would feel that he had a right to such game as he had killed, since truly, in Locke's phrase, he has " mixed his labour with it." Yet we find that his only meed is honour, or at most a titbit for his portion, the custom being that every member of the fire circle takes pot-luck, or whatever may be the equivalent in the days when pots have not yet come into being. No doubt the explanation consists partly in the fact that most of the hunting is done in parties, so that all who have assisted in the drive have almost as much to do with the result as the thrower of the lucky spear. But the true reason lies, surely, deeper. To let a companion starve when one is in command of plenty would contradict the very idea of companionship; whereas, conversely, eating together is, in the eyes of the savage, a sacrament, a reinforcement of the sacred bond that makes the community seem, as they put it, to be " all one flesh." Not that this impulse to recognize each other's right to the means of existence is wholly spontaneous, or there would be no need to reinforce it sacramentally or otherwise. Among Australians the first article of the moral code is, " Thou shalt not be greedy," and there are special magical devices designed to impart generosity as regards food-sharing. In fact, the most severe social pressure is needed to keep individual self-assertion in check when it takes a form that is plainly of a dissociative tendency.

Self-assertion, however, need not have a dissociative effect, since a society will be strong in proportion as its members are individually capable of looking after themselves and making the most of their peculiar gifts. To go back to the hunter who makes the successful kill, he is likely to be the man whose spear is of exactly the right balance—that is, suited to the particular arm which, as it were, it lengthens. Right back in the Palæolithic we come on signs engraved on weapons that look like owners' marks. Certain it is that the modern savage is no communist as regards his personal equipment, whatever may be the case in regard to appliances involving team-work, such as a canoe. The very luck that attends his hunting efforts is treated as a quality of the weapon rather than of the man, yet as a quality which the man's private and secret magic is alone able to impart to it. Now, such privately owned magic is nothing but primitive personality viewed from without. Every man of parts lays claim to magical power in proportion as he believes in himself. For the same reason, a man's decorations are his private property—namely, because their prime function is to enhance his magic. Æsthetically, no doubt, they afford pleasure; but the chief pleasure derived from them is a gain in dignity. The "superiority complex," as one might call it, of the magician, the miracle-worker, the man of luck and genius, is fostered by the sense of cutting an impressive figure. His personality shines forth in his adornments, since by their means he faces the world—nay, outfaces most of it, since feebler folk "lose face" in his presence. They may form a mere collectivity, a crowd, but every crowd must have its leader, and his are the badges of personal authority manifest to all. The best proof that his personality—his "smell," as the Australians say—has entered into the things that make up his magical outfit is that they are normally buried with him; for they are so much a part of him that his spirit is bound to permeate them still. If they are used by others at all, it is with a full sense of the original owner's claim to haunt them as a ghost, and in order to have the benefit of the co-operation of such an ally.

At this point one may pass to consider the question how far property, if it is to express personality, must be used. For the inheritance of property might seem a stumbling-block. If one man earns in order that another may spend, can the first man be said to have used the property to magnify and extend his own personality? Looking at the matter first from the point of view, say, of a father who stores up possessions for the use of his son, it is not hard to see how he may well regard his son as being part of himself, so that he himself seems to live on in the career that he plans for his successor. His own personality, in other words, takes credit in advance for its posthumous enlargement. From the son's side, it is obvious that, as the son of a great man, he starts with an advantage, which, however, he must not lose by a subsequent display of personal inferiority. A case in point may be cited from Melanesia, where, as so often in the primitive world, the richest part of a fortune which a man can hand on consists in his private stock of incantations. We hear that a man who has the special charm for making yams grow will bequeath the recipe to his son. The latter, however, must make good by promptly producing an uncommonly fine crop of yams on his own account. Otherwise the people decide that the old man's magic died with him. Nothing could better illustrate the German poet's saying that to possess what you inherit you must earn it. The heir to a library must be able to read the books. The heir to a spell must be able to make it work.

Another difficulty in regard to the principle that property involves personal use relates to the accumulation of wealth beyond the spending power of the possessor. The distinction between productive and unproductive wealth hardly helps us here, for to employ wealth productively in the economic sense—that is, simply to produce more wealth—does not, if the capital belongs to an individual, save him from the necessity of spending, since there will be more to spend in the long run. Spending, however, implies an active use of wealth for purposes of enjoyment. Yet there may also be a passive way of using and enjoying wealth consisting in the contemplation of it as a potential source of gratifying activity. Indeed, personality is like property in this respect, that it is a potentiality realizable, not all at once, but as desire or opportunity may variously determine. Thus the saying that wealth is power implies that it affords a larger choice among experiences such as are, perhaps, quite incompatible with each other, and in any case may be spread through a lifetime. Among savages, for example, as soon as property takes forms which render accumulation possible, the rich man is apt, so to speak, to sit on his possessions—to content himself with the feeling that they are there. This is manifestly so where wealth of the unproductive type is concerned, as in the case already mentioned of objects of magical value, such as the regalia with which the primitive king's reputed power over destiny and the course of nature is bound up. Virtue emanates from them, and there is nothing to do but to stand by and receive it. To enjoy is simply to have and to hold; and holding is, after all, no purely passive process, since woe to the king who lets a rival wrest from him the symbol of the majesty that goes with his sacred office. Productive wealth, however, is also known to the savage, as notably when it assumes the shape of flocks and herds that in open grassland will multiply indefinitely. Such increase by compound interest delights the primitive owner; yet not because he contemplates a bigger trade in meat and hides, but rather because he is thereby made to feel a bigger man. With reluctance he kills even for his own table, and that usually when such feasting is incidental to a sacrifice. His beasts are mostly allowed, after breeding to their full powers, to die on his hands. No doubt it is vaguely felt that in this mass of stock there is capital to draw on if the times become hard and the people are starving. But a desire for the greatness accruing to the man of great possessions stands out as the most conscious motive of this policy of using without using up. His heart feels strong within him, he ventures more, and he actually performs more, because there is visible evidence of his power to have his will with the world.

Powerful, however, as may be the leader of the crowd, the crowd itself is ever the more powerful, and at all stages of society has ways of reminding the great man that service is expected of him. Thus unbounded hospitality is the mark of a chief. If he may save up between times, there are festive occasions when he must be lavish in his spending. Of the two extremes, the vice of the miser is judged far worse than that of the spendthrift. A certain abandon in giving is admired. Thus the head of a leading house among the salmon-fishing Indians of North-West America heaps together all the property that he himself possesses and that his relatives willingly subscribe in order to hold a *potlatch*, or distribution feast, at which he and the family strip themselves to the skin. The guests go off with the goods, and the family is left with nothing but the credit. Their turn will, however, come presently, because the guests cannot afford to show themselves mean-spirited, but must return the presents with abundant interest. There may be a certain crudeness of gesture in this reckless flinging away of goods, but the underlying sentiment is sound enough—namely, the feeling that honour comes before wealth, that the material means but subserve a spiritual end. Thus anthropology can offer some support to philosophy when it is sought to establish an ideal connection between property and personality. The savage tends to view himself outwardly, and so is all the more inclined to identify the extent of his personality with the extent of his visible means of expressing it and making it effective. Further, in proportion as a man proves his power to help the rest, will the rest of a primitive society be ready to allow him to be master of the needful resources.

CHAPTER X

MORALITY: HOW NATURE AND CULTURE MEET IN IT

MAN is the only animal with culture and the only animal with morality. In so far, however, as he is an animal, he starts with a nature on which the culture must be superimposed if the morality is to be produced. Or it may be put in another way by saying that, since morality implies education, there must be something to educate, a raw material on which to work. Using " nature " in this sense of man's original as opposed to his developed state—for, of course, in another sense, one's nature is retained throughout the process of education, and is simply changed for the better—we can identify this natural element with that group of preformed dispositions known as the instincts. It used to be thought that instinct in man amounted to very little; since an instinctive tendency was held to be a self-acting mechanism that must always function in precisely the same way, whereas man is no automaton. Further study of the instincts of animals, however, has shown them to be by no means invariable, but, on the contrary, capable of modification as circumstances require; so that a bee, for instance, can adapt its building to all sorts of odd situations, a tin kettle or an old top-hat, despite the almost mathematical arrangement of the normal comb. Hence, though man displays great modifiability as regards all his impulsive reactions, he is now credited with instincts in plenty. He seems, indeed, to be endowed with a whole armoury of specialized weapons for coping with the world, which, one and all, however, need sharpening on the whetstone of experience before they are fit to use. In fact, he is probably the animal with most instincts. Yet for this very reason all the more adjustment is necessary, if so very complex an apparatus is to be employed with effect.

Now the savage is often called the child of nature; but he is really a very artificial person. Prehistoric man, when he first comes into view, has long ages of culture behind him. His actual ways of life, though predetermined and, as it were, predestined by an innate bias, are likewise modified by experience, not simply as it comes to the individual, but as it is communicated by one generation to the next. In thus becoming traditional, experience gains enormously in its power of putting a keen edge on instinct, so that much finer work results. Every other animal with little more than nature to rely on is confined to a narrow routine. But man, thanks to culture, spreads his experimental stations all over the earth; at every one of which something different is being tried, with results that are duly noted and passed on. Now this making of man by the accumulation and communication of experience, this artificiality due to self-cultivation, is the glory of our race. No one but a degenerate would wish to go back on that. But there may be reason for holding that certain elements or types of culture are artificial in a bad sense. There may be some justification for the cry, " Back to Nature," if culture outrages nature—if it does not allow sufficient play for hereditary forces that, if pent up, are likely to cause strain and stress, or even utterly to shatter the organism by sudden discharge. So much has of late been written both about the danger of " repression " and about the value of " sublimation " as a safety-valve, that there is no need to go into details here. It is enough to note that culture must somehow hit it off with nature. No mere compromise will do. There must be a happy marriage. In like measure will a sound morality come into being. There must be control of nature, because the whole function of experience is to bring about a nicer management of the hereditary machinery; but there must not be any starving of nature, lest hunger drive the brute in us to desperation. Thus it may fairly be said that the study of history has for its ultimate aim the establishment of the moral life on stable foundations. By reviewing man's cultural experiments, we ought to be able to tell which of them have most successfully done justice to our original nature, while at the same time helping to convert it into a developed nature enriched by the fullest experience of which we are capable.

Now the human instincts can be classified for different purposes in different ways, but in their relation to the moral life they are most conveniently divided into two main types. Whereas all alike serve the interests of the race, since it is as a species that we compete with the other species for survival, yet one set only has directly to do with inter-individual relations, while the other set is concerned with the individual link in the chain of lives. Thus, on the one hand, sex, parentage, and herd-feeling, which serve the interests of others, have their roots in the nature which each of us brings with him into the world. On the other hand, protection, acquisition, and nutrition serve our own interests, yet result from promptings which are no less a part of our hereditary being. Since life contrives harmony where logic is apt to perceive only contradiction, there is always some balance that can be struck between the apparently opposite pull of these tendencies which make severally for the good of others and for the good of self. Thus all animals reconcile them somehow; but they do so, for the most part, in clumsy fashion, to judge by the wastage caused either by laying down life or by taking it on wholesale principles. Fortunately for the other animals conscious experience counts for so much less in their scheme of existence that they are not aware of its disabilities, as men would be who look before and after. Aided by reflection, man insists on devising the means through culture of teaching nature to be more gentle—less rough-and-ready in its ways. Self-sacrifice and self-assertion are alike mitigated by bringing them under a rational control which prevents extravagance in either direction. A reasonable morality must so blend duty to others with duty to self that the agent scarcely knows or cares where the one begins and the other ends.

By what system of control, then, is a reasonable morality to be established? Using the term "sanction" to express any controlling influence that has a moral end in view, let us distinguish two kinds of sanction, one of which may be described as external, and the other as internal. Just as the instincts fall into two classes, so correspondingly must the sanctions of the moral life. For they are but the outcome of experience as it seeks to bring inter-individual relations and the individual life in turn under more harmonious regulation than unassisted nature could manage. Thus the external sanction may be identified with custom, the internal sanction with conscience. The former originates in our joint efforts to keep in touch with one another, and, though, of course, each of us has some share in making and maintaining it, the share of the rest is so much greater that it feels to any one man as if it were imposed from without. On the other hand, the individual tends to deem his private conscience his own, even though its dictates are permeated with borrowed wisdom. Now, for the perfect citizen of the perfect state, we might suppose that the distinction between an external and an internal rule of right would vanish. Nay, it is perhaps only in civilized life where vast numbers of people of very various grades of culture are being very slowly made to realize their common interests, that a marked discrepancy is felt to exist between the law of the community and the law of conscience. The typical savage is hardly aware of the difference. This is not, however, because he and his state are perfect. On the contrary, many of his habits, whether private or public, are stupid and bad, because the critical faculty remains undeveloped—because he has not yet learned how, by conscious selection between alternatives, to draw profit, as a thinking man can do, from his very mistakes. Doubtless he has got a long way past the immobility and stiffness of animal instinct. By largely unconscious methods he manages to change his ways; or else unwillingly undergoes the painful process of having them changed for him by some none too benevolent taskmaster. But the stage of customary morality is at best a halfway house on the road to a rational morality. Following the crowd will not produce the type of good man who is capable of being a law unto himself.

Perhaps the best proof of the advance on instinct achieved even by the savages who are most blindly addicted to custom is to be found in the trouble taken by them to keep up the social system. As civilized folk soon find out when they interfere injudiciously, nothing is easier than to upset the moral life of a primitive community altogether by tampering with its law, its religion, and its traditional mode of educating the young. These three powerful influences, all involving much organized effort, converge on every member of the tribe from childhood onwards so as to exercise him in a kind of social drill. Of the three forms of the external sanction, law operates most completely from without—namely, by means of the infliction of punishments, which, however, are rarely required. Religion, in one aspect, can scarcely be distinguished from law as a threat external to the individual, being, as it were, hung from above over his head; for not only hereafter, but here as well, under rulers whose reputed powers put them on a level with the gods, are dire penalties in store for the violator of custom. In another aspect, however, religion even in its more rudimentary forms makes some appeal to the inner man, as notably when various abstinences are prescribed as the price of the holiness, which is at once the outward badge and the inward inspiration of a leader of society. Finally, education, even if its function be to persuade rather than to coerce, is imposed on the young by their elders from without and often, so to speak, from behind as well. The schoolboy of to-day may think himself lucky that his moral principles are not hammered into him quite so literally as may happen at any savage initiation. No doubt endurance tests are prescribed partly for their own sake, as when the future North American brave must hang from hooks passed through the muscles of his back to see how long he can stand it. But there can be little doubt that all such painful accompaniments of moral training are chiefly meant to produce a fitting sense of that unlimited power over life and limb whereby society enforces submission to its decrees on all its members. It should be added, however, that primitive education has likewise kindlier methods at its disposal, as when the child drinks in wonder tales from his mother, or the father regales him with stories of heroes, or of his own deeds of prowess. Indeed, the savage parent tends to be more slack than severe in the matter of discipline. In marked contrast, when the youth has at initiation to graduate as an adult member of the society, his person is made aware of the full weight of the communal hand.

Now as the external sanction arises directly out of the fact of being together, so the internal sanction no less directly originates in the fact of being oneself. Among existing savages none is so lost in the crowd as not to have a personal name. Indeed, everyone takes his name so seriously that he is apt to identify it with his very self, and hence to do his best to hide it lest magicians work evil upon it, and through it on him. Of course, he may have various other names which, like his family name, stand for a social designation. His proper name, however, implies that, socially related though he may be, he is likewise unique—not a mere human item, but an individual with a being of his own. In giving him such a name society in the capacity of godfather dedicates him, as it were, to the special duty of developing a personality. Thus it meets halfway the instincts which, anyhow, would lead him to assert his right to exist. Mere self-assertion, however, would lead to a very one-sided interpretation of the moral formula, which, fully stated, is: "Live and let live." At the customary stage of morality, however, crowd-consciousness makes the external sanction so strong that there is no fear of the individual breaking loose; while, on the contrary, there is great need of the man who will think for himself. Thus, to revert to the personal name, one might almost say that the savage sees himself so consistently through the eyes of the rest that he thinks of himself as "So-and-so" rather than as "I." It is with him as if one were to identify oneself with the face one sees in the glass. "I must look my best" is about as near to an internal sanction as the savage gets. His is like that spurious kind of self-consciousness which disturbs one if one's tie is crooked. Self-consciousness, in the sense of self-criticism based on an analysis of motive, is quite beyond his reach. As long as he cuts a brave figure, he is content; while, on the other hand, he cannot stand up to ridicule for a moment. The North American Indian, tortured at the stake by his enemies, has the courage to maintain an undaunted front, lest they see him quail and he be publicly shamed. But the courage shown by the Christian martyr in similar circumstances is of a different and higher quality, because he dies for a principle.

There is no need to repeat what was said, in connection with the subject of property, about the pride of possession characteristic of the primitive type of great man. It is the case of the looking-glass over again. He must make his own virtue visible to himself by external means before he can know if it be there. So with his *mana*, his personal magnetism. He can conceive it better as proceeding from the amulets that he wears than from his own strong will. So, too, then, his standards of morality are imperfectly internalized. They are canons of respectability, not rules of reason. The reality of the good life—namely, a consciousness of right doing—is confused with the appearance, a reputation for right doing. Even so, however, this undeveloped type of conscience is an important factor in the making of man. The "noble" savage, of whom the poet sang, exists. His sense of personal dignity saves him from much meanness, if, on the other hand, self-display takes the less estimable form of bragging, terrorizing, and so on. According to his lights he is a man of honour; though herein lies the key to his moral limitations no less than to his moral worth.

If a rational morality is the end of the making of man, let it be said, in conclusion, that this end is barely in sight. Nature and culture must be joined in true wedlock before they can bear this divine child. At present they are at most betrothed. The promise of the eventual union of instinct and reason may be said to be attested by the study of human evolution, since there is evidence of progressive harmony in their relations, as with the growth of knowledge savagery is slowly transformed into civilization. Man, however, though in the making, is by no means made. The brute is but partly humanized—that is, tamed. Yet there is hope in the fact that man is his own tamer, and has only to go about the business with sufficient science to be sure of ultimate success.

BIBLIOGRAPHICAL NOTE

To supplement this sketch (which approaches anthropology from the side of culture, more especially as embodied in social institutions), the writer's *Anthropology,* in the Home University Library (Williams and Norgate), should be consulted, together with his article " Anthropology " in the forthcoming fourteenth edition of the *Encyclopædia Britannica.* For more detailed study of the two main topics here dealt with, on Social Organization, see E. Westermarck, *History of Human Marriage,* or his *Short History of Human Marriage* (Macmillan); and L. T. Hobhouse, *Morals in Evolution* (Chapman and Hall); and on Magic and Religion, see Sir E. Tylor, *Primitive Culture* (Clarendon Press); Sir J. G. Frazer, *The Golden Bough* (Macmillan), or the *Epitome* of the third edition in one volume; and the writer's *The Threshold of Religion* (Methuen). A work on Prehistorics, such as W. J. Sollas, *Ancient Hunters and their Modern Representatives* (Macmillan), should also be consulted. If a first-hand account of a very primitive people is also studied, as it ought to be, Sir B. Spencer's *Across Australia* (Macmillan) is both illuminating and easy to read. Frazer and Westermarck supply full bibliographies to the vast literature of the subject.

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THE RACES OF MANKIND

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THE RACES OF MANKIND

CHAPTER I

HUMAN RACES

James Watt's invention of industrial power on the large scale has multiplied contacts between men of all types and regions, and now, whether we like it or not, we are in a deeper sense than ever members one of another, whether we be black or yellow or white. The application of industrial power on the large scale is converting the torrid lands into producers of raw materials for the manufacturing peoples, who are gathered more especially in temperate regions, and an important aspect of the problems that confront India's statesmen is the rather confused struggle against the allocation of that teeming country to this task, at times at the expense of an invaluable culture heritage. Alongside of the influence of James Watt we have that of Louis Pasteur and Joseph Lister, and the host who have followed them, apparently diminishing the dangers Europeans have to face when they go to distant and especially to equatorial lands, and thus making men's conquest of nature more sure and more far-reaching. Yet even the cheeriest optimist has doubts about the extent of the conquest when he gets reports of nervous breakdowns and sees that European children so generally have to be brought back to Europe for health's sake. If, then, contacts of peoples are multiplying, and if, especially, the European cannot simply instal himself in place of the coloured men of the torrid lands, it behoves us to understand all we can about the peoples who manage to survive under the trying conditions of those regions in order to establish a working partnership that may be of mutual benefit, for we may be sure that, if the association is harmful to one side, it will be harmful to the other as well. The study of the races of man is thus a matter of prime, practical importance; it is no less of scientific value, too.

Charles Darwin's vision of the unity of nature and man is illuminating dark problems in every part of the field of thought; it is changing our attitude in social and religious and educational matters, and its application to the problems of mankind in general is deepening day by day.

There is no longer any doubt that existing types of men have all evolved from one ancestral type which was already quite human; they have evolved in the course of drifting movements about the world, and it is our business to try to find out how so to study those drifts as to get a picture of their results in the negroes of Africa, the "whites" of Europe, the "yellows" of N. China, and the many types scattered the world over.

Unfortunately for our purpose of evolutionary study we have only too few actual specimens of our early ancestors; the gaps in the series are enormous, and a great deal has to depend, temporarily, at least, on working hypotheses. Still, when we remember that not half the ancient skeletons now known had been found a generation ago, and that the search for implements and other indications of man's presence goes on unceasingly and with increasing success, we may hope for more light in years to come.

While as yet next to nothing was known of ancient man, it was natural that race study should proceed by attempts to classify, to subdivide, men into groups called "races," with the suggestion that the people of one race are more nearly related to one another than to anyone else, and that they have descended from a common ancestor or group of ancestors. In fact, there has been a natural tendency to exaggerate the resemblances between the idea of a "race" among men and that of a "species" among animals or plants. How is this exaggeration dangerous? It is dangerous because man has acquired powers which mark him off from the animals very sharply. If they move from one climate to another, in most cases they do so very slowly in the course of many, many generations, perhaps, for example, acquiring thick fur in some way to withstand cold; in any case their dispersion is a slow business. Man, on the other hand, puts on an extra thick coat or covers his skin with grease, a much more rapid affair.

In other words, the drifts of men are easier and far less limited by climatic and other factors; men make adjustments in their clothing and food, in their tools and animal helpers, and all this is a sphere of power and opportunity no animal has ever entered. Thus groups of men with, in most cases, very different features of equipment and organisation inhabit every region of the world save the Antarctic Continent, and the same can be said of no animals unless it be a few which have spread in man's company. Species of animals have their characteristic home areas, the human species has become worldwide in its distribution, within which, owing to power of movement, human types or races grade one into another and mix with one another in endlessly complex fashion.

It may be that in some cases living animal species grade into one another, but it is very often the case that they are markedly distinct, and, very often, too, they do not interbreed. Human types or races, however, can interbreed very generally; in fact, no case of general sterility of crosses is known. This means that many individuals carry mixed inheritances from two very different parental strains.

For these reasons, it will be seen, there is only a limited value in the idea of basing our survey of human races on a classificatory scheme. It is true that populations in North-West Europe, in torrid Africa, and in Northern China are markedly different from one another, and that a classification of "outstanding types," of which these would be three, has its uses, but even these can be said to merge into one another. It is thus better to think of drifting movements of men from their early home, and to try to ascertain the qualities of each of the drifts and its changes of quality in the course of time. Drifting movements may have continued for long periods, and may often have included mixtures of types, so the matter is very complex indeed; but the drifts of men to each great region, to torrid Africa, to Australia, to America, to Western Europe, to Eastern Asia, have been subjected to the influences of the climates and opportunities they have found along their lines of movement. The equipment they have carried with them, in thought as well as in tools, has varied from time to time, and has made the greatest differences to their fate, differences nowhere so contrasted as between the early drifts into North-West Europe and Australia, with neither metal nor domestic animals nor crops, and the later drifts of the early period of metal into Western Europe and of the modern colonist into Australia with knowledge of agriculture and of a multitude of arts. Thus may one and the same region present very diverse environments to groups who come to it with different ranges of experience; man is not to be set down too simply as the creature of environment; his mental and material furniture, sometimes brought from afar through both time and space, counts for a great deal in the final result. A region may offer possibilities, opportunities, difficulties; man may meet them in many ways or may merely seek to avoid the new and to cling to the old.

The study of ancient skeletons has demonstrated that some early members of the human species differed in important particulars from living types of men, but they are not found living anywhere at the present time, and it is doubtful whether much of their blood has gone to the making of modern types. Modern men, whether they be Eskimo or Zulu, Araucanian or Scandinavian, seem to be the descendants, modified in various directions, of one ancestral group which was neither the type that is known as the Neanderthal race, to which most of the ancient skeletons of extinct forms of man belong, nor the Piltdown nor any other type known from actual skeletons up to the present, though discoveries may be made any day.

It seems, then, that Pithecanthropus, the Piltdown woman, the Heidelberg jaw, the Rhodesian man, and the various specimens loosely grouped together as the Neanderthal Race, represent side branches from very-early-human or not-quite-human stocks. As they are all extinct we leave them aside, and we shall first try to get a picture of the common ancestors of modern man in broad outline.

It is a useful hypothesis that at some prehuman stage, probably a remote one, a member of the ape-group took to living to a far greater extent on the ground and less in the trees, and that at the same time he was growing bigger. Some of the forms at this stage remained in the forests, and are now found as the gorilla, the chimpanzee, the orang-outang, and the gibbon in the equatorial forests, but the forerunners of man became creatures of the grasslands, and it seems likely that the forests have been hostile to man throughout his early history until he learned to destroy them, sometimes with sad results for the race, or to manage them as he now does so remarkably in Scandinavian and Germanic lands. With the increase in size, and with life more upon the ground came an increase of the period of pregnancy from seven months to nine months; this may affect some or all of the apes above mentioned, and it is a cardinal fact in man's history. It involved a much increased maternity-tax with many results.

The apes eat a little flesh food, but live mostly on vegetable material. The human ancestors on the grasslands took to an increased proportion of animal food, long eaten raw. To get it they hunted great and small beasts, and the women were less able to take part in such work than before, both for the reason above stated and also because the extra two months of pre-natal growth made it a longer and more difficult affair for the baby to learn to support its head in the erect position. So there arose the division of labour that is such a feature of mankind, the man hunting and doing some collecting, the woman collecting food and nursing and becoming a social focus with duties as an auxiliary in preparation of the proceeds of the hunt, and soon learning to use the skins of animals caught as screens for herself and the baby and for the hunter, too. Such relations and the better assurance of food supplies seem to have led to more nursing and so to delay of the hardening of the skull —*i.e.*, to increased possibilities of brain growth; to increased play, leading, we think, to such arts as flint chipping, to which the immense leisure of the waiting hunter doubtless contributed; to the art of maintenance, and ultimately of creation, of fire, to help in walking more erect, and so on. All these features of life were very probably possessed by the extinct types of men above mentioned as well as by the more direct ancestors of man who are still more or less speculative. We will not venture to assign either a period or a region to the process of the evolution of man as such. We shall merely take him as a grassland inhabitant and proceed to try to understand the rise of modern types of man. They approach, or, in all but a few of the earliest specimens, have completely attained, an erect posture with, according to Elliot Smith, a much improved stereoscopic vision and power to register detailed visual impressions of objects brought near the mouth by the hands. This, together with the increased nursing above mentioned, seems to have led to an increase of brain-growth, affecting the fore brain more particularly. The earliest specimens of men of modern type show us how this in turn seems to have affected the growth of the skull. The latter serves as the attachment on each side of the great temporal muscles that move the lower jaw up and down, and they were still very important from early childhood in the forerunners of modern man who had heavy jaws and ate half raw or quite raw flesh food at which they tugged. So the increased growth of the skull around the increased growth of brain was unable to express itself very freely in the direction of increased width, and the growth which took place was mainly in length. Thus the early representatives of modern man include several whose heads are very long, and if the head-sides slope steeply these same heads are also very narrow and high, "gabled" one might almost say. Sometimes, for reasons one could discuss, the head sides slope steeply only at some distance from the middle line and then the skull is less high and narrow, but it is usually very long in early types.

It may, however, be that some human types, like certain pygmies of the equatorial forests with small heads that are less long in proportion, represent remnants of those who did not undergo the extra growth in length described. It is often rather carelessly said that many individuals belonging to extinct types of men were also very long-headed and narrow-headed, but to make measurements comparable, we must deduct the measurements of the enormous brow-ridges of those types; if that be done, extinct types of men, like most species of apes, except one type of gorilla, are more or less round-headed. We shall, at any rate, venture to work upon the idea that, among those becoming men of modern type, there were some who had very long and often narrow and high heads, while others living under less favouring conditions had smaller, rounder heads. With increased use of the hands and increased approach to the truly erect position, and doubtless beginnings of cookery and betterment of nursing, the growth of the jaws, and with this the growth of the brow-ridges also, was lessening. It was a late phase of growth previously, and it has almost dropped out among women, whose growth phase is shorter than that of men, and it survives only in a very mild form among men.

Where did modern types of man originate, and when? Some hypothesis on this subject is necessary to help us to appreciate the facts about human races. The earliest traces we have are from South-West Europe and North-West Africa, and belong to a time when Europe was undergoing its last recovery from ice sheets, a recovery which was a very chequered one at first. The Neanderthal race had apparently managed to fit itself to glacial conditions, and vanished with their retreat. The new types apparently came into Europe from Africa. Now, while the ice sheets kept Europe cold, the dense cold air above them shouldered out the westerly winds which then blew into the land that is now the Sahara and Arabia, and it is especially this region, then an area of winter rain and grass, that may be supposed to have been the home or the cradle of modern man. It must have had a temperate climate with, at the same time, strong sunshine in summer, for we cannot suppose that the relations of sun and earth have appreciably changed so recently.

When we study modern man physiologically we find that his various organs apparently function best at somewhat diverse temperatures, and that accordingly he favours a variable climate, but a temperature about 60°-65° F. (say 16°-17° C.) should recur frequently to keep him at his best. There should be much cooler weather, especially for the well-being of the nervous system, and any prolonged period at much higher temperatures is not helpful, and may even be very dangerous. At temperatures such as those described, an active handworker may give off as many as 3,200 calories per day, and it would seem that growth is most prolonged, and the full and final establishment of the sex functions is achieved most slowly. The men who live under other conditions—*e.g.*, the natives of equatorial Africa, of the Gobi, of the Tundra, and so on, show various adaptations in the first case to disperse, and in the other two to conserve heat, and it is notable that in West Africa a native can apparently disperse only about half the heat that a North-West European can, and this in spite of many racial features specially developed, as modifications of growth, to increase heat loss. It is thus fair to suggest that man is essentially a creature of the temperate lands, and that his adaptations to torrid and to frozen lands are in some cases not by any means wholly successful. The fact that cool conditions favour especially the nervous system has been held to suggest that the growth of the forebrain took place during a cold period, and it has already been seen that this is probable on other grounds.

As all modern men have very little body hair, it is clear that the reduction of hair was a feature of the type in general, and, as all modern men, again, have some tendency, however slight it may be in Sweden for example, to brown pigment in the skin, we may suppose that the type was brownish skinned. It may be that this was ancestral hair-pigment concentrated in the skin; it is at any rate important that a certain amount of brown pigment is invaluable as a protection against excess of ultra-violet rays such as would occur at times, whatever the range of temperature, at latitudes of 20°-30°.

Among the earliest skeletons we find none, of modern type, which indicate an adult, male height of less than five feet, and several are quite tall, almost giants. We have already noted the pygmies of the equatorial forest as probable representatives of those early variants of modern man who did not undergo all the great growth of brain characteristic of the race. It is probable that modern types of man are taller than their predecessors, and that the pygmies again have not undergone the full increase. It is on the other hand possible that the very trying conditions of the equatorial forest have led to an actual reduction of stature, and it is noteworthy that the pygmies often retain a good deal of the fine downy hair of infancy throughout life.

The last character that it is essential for us to consider here is that of the skin and the head hair. Here we need only say that there are reasons for thinking that the skins, both of the people of equatorial West Africa and of peoples indigenous to Gobi and North China are specialisations in different directions, related to the increase or decrease of heat-dispersion, from the more average condition represented by a tough-skinned European in this respect. The same statement may be ventured concerning the kinky hair of the man of equatorial Africa or the straight coarse hair of many men of Gobi, North China, and the Tundra. To try to interpret the contrasts would be to anticipate what must be discussed in more detail in connection with the peoples of Africa, Asia, etc.

The above brief summary of the main physical features of the general type of modern man needs as a supplement a few hints on the primal social conditions involved. A few cases of deliberate burial occur among ancient, extinct types belonging to the "Neanderthal Race," but with the appearance of modern man deliberate burial becomes established, and we have quite a number of instances preserved to this day and mostly discovered within the last half-century or so. This cannot but suggest that some notion, however vague, of a life after death or some feeling of the surviving power of a dead magician, affected men's minds. Men's dreams were obviously taking them beyond the actual and teaching them "to look before and after," and perhaps already "to pine for what is not."

The implements associated with periods before men of modern type appeared are often of very beautiful construction, but are of relatively few types. It seems that the heavy hand of custom lay upon the craftsman, and that his growing spirit found its joy in fineness of workmanship. With the advent of modern men we find considerable variation in the types of flint implements, and they are often small, and give the impression that the owner kept a number at hand for replacement as might be necessary.

Moreover, in some regions at least, he seems quite soon to have learned to mount flint on wood, and he thus had probably found out the value of the lever. In this and several other ways we get an indication of a liberation of the spirit, and this is demonstrated above all by the art of these ancient hunters. We know also that they used fire, and suspect that they already knew how to make it. They seem to have known nothing of cultivation or of domestication of animals or of pottery making or of stone grinding.

Their erstwhile original home has largely become desert, and portions of it near rivers became the scenes of the next great step forward in human organisation, so on both grounds the ancient hunter-artists and their mode of life are no longer found in the original region. These modes of life have been pressed out to the remotest corners or, in some cases, to areas of specially unfavourable climate, and it is interesting that we can broadly divide the present day peoples who live by hunting and collecting, and who seem to be descendants of people who have always done so, into two groups. Those with small stature and small roundish heads in the equatorial forests of Africa and Asia may be said to be one group, while those with very long and usually narrow and high heads like the Greenland Eskimo, some Fuegians, some South African groups, and the Australian aborigines, and the Veddas of Ceylon, and some jungle tribes of South India form another, scattered group, scattered as it were to the far corners of the earth. The Bushmen of South Africa and the recently extinct Tasmanians are in some ways intermediate between the two groups. It is to be noted that the Tasmanians and the African peoples mentioned in this paragraph all have kinky hair, the Vedda and the Australians wavy or curly hair, and the Eskimo and Fuegians straight hair. In skin, too, there are contrasts in colour and other details, but we cannot close our eyes to the fact that old-fashioned types of head persist in these remote spots in special numbers. It should be added that old-fashioned types of head, especially the very long, narrow, high ones, also persist among many peoples like the British, French, Portuguese, Scandinavian, etc., and among such peoples the bearers of these old characters are usually fully members of the body politic, and indeed may give a rather large proportion of supernormal individuals. Nevertheless, it is very generally true that the hunting and collecting peoples are unable to face modern European commerce and its accompaniments.

The Tasmanians are gone, the Bushmen, the Australians, the Pygmies seem to be going, the Eskimos are being kept from extinction by stringent measures; at least, an attempt is being made to preserve them in Greenland as a population valuable to the world, which would otherwise find a difficulty in the valorisation of the Arctic. We shall have to return to these types in studying the peoples of the various regions, but, prior to that, we must sketch some outlines of the dispersal of types which pressed upon these old-fashioned groups and led to the survival of their full representatives only in the remote or difficult regions mentioned.

The retreat of the ice sheet and the consequent change of position of the zone of the westerly winds from the north of Africa to North-West Europe brought about one of the greatest crises in the story of humanity. In the first place, the forest, first of pine and then of oak, spread over Western Europe, and the grassy plains, which had erstwhile allowed great herds to roam, were very much reduced. The old hunter-artists were faced with a crisis and were unable to keep up their old life. They did not of themselves learn agriculture or stockraising, probably because the grain plants, which are basic for this mode of life, did not grow naturally in Western Europe. They seem to have eked out a rather poor existence on the shores, and on some patches of soil that for some reason were fairly clear of trees.

In the second place, the belt of rain which had formerly brought heavy snow to Central Asia via the Euxine and Caspian was now of much less importance, and parts of Turkestan, which seem previously to have been very wet, probably largely through melting snow, now became drier and more habitable as grasslands still kept fairly moist for some thousands of years by melting of mountain ice. So it became possible for men, whether from the west or from the south, to trust themselves bit by bit to the great sea of grass.

In the third place, the former peoples of the Sahara and Arabia were pressed out towards the Mediterranean, the Nile, the Syrian and Mesopotamian rivers on the one hand and probably towards torrid Africa and India on the other. Finally, pressure of population on the Nile and the Syrian and Mesopotamian rivers led to the invention of the art of cultivation of crops in these regions in which regular seasonal floods fertilised the soil with an alluvial deposit. In this way agriculture could begin without facing the problem of exhaustion of the soil. The balance of evidence seems in favour of considering Mesopotamia as more nearly the primal home than Egypt. With cultivation came the knowledge that friction with earth would smooth a chipped stone—*i.e.*, stone grinding began and released men from previous dependence on flint, for any stone that was hard enough would lend itself to grinding. There also came settled hearths and homes, villages, and soon cities, pottery, metal working, and many other inventions, making a beginning of what we may call in the strict sense civilisation.

From the development of civilisation onwards, while the old types of long, narrow, and high heads still occur, they become less numerous than heads in which the growth has taken place more freely in width as well as in length, so the nett result is what one may call a moderately long head, or in some cases even a broad head, as we shall see. In what have here been called the old types with long, narrow, high heads, the breadth may be 72 per cent. of the length or even less (some as low as 63 per cent. have been recorded) on the skull, and this is equivalent to about 73·5 per cent. on the living head. In the moderately long-headed types the breadth is 72 to 77·5 per cent. of the length on the skull, or 73·5 to about

78·5 on the living head. In the moderately broad-headed types the breadth is 77·5 to 80·5 per cent. on the skull, or 78·5 to 81·5 per cent. on the living head. With higher percentages we may speak of broad-heads. These are not the figures that have been used in the older books, which have adopted arbitrary arithmetical boundaries, using the name *dolichocephals* for types in which the ratio (cephalic index) is 75 or less, *mesocephals* for those with cephalic indices 75 to 80, and *brachycephals* for those with indices above 80. Some confusion arises through the use of those limits at times for relations on the skull, and at times for relations on the living head. The matter has long needed revision, and the suggestions of 72 to 77·5 to 80·5 are made on the basis of considerable experience in the analysis of types. They correspond approximately to morphological differences of some importance. Those with indices above 72 on the skull rarely have the head highly ridged along the middle line; those with lower head indices usually have the height of the head equal to or even greater than the breadth; and other differences mark off to a certain extent the other groups enumerated above. We have reason to think that the people who learned to cultivate the ground and to develop villages and cities included a good many with indices 73 to 78, people, that is, of long-headed ancestry, whose heads were growing somewhat more freely in breadth. It is likely enough that this was due in part to the development of homes and cooking and milk supplies for the children, all factors delaying the hardening of the skull and reducing the call for very tough and strong temporal muscles (the muscles fastened to the sides of the fore-part of the skull above and to the jaws below) used in tugging at flesh. There is also reason to think that from early times there was a broad-headed population in Anatolia; it may have attained this character by widening from a narrow condition, but a less strained hypothesis is that in Anatolia, as on the equatorial side of the early home of modern types of men, there may have been people who missed something of the earlier growth in length, but who, unlike the pygmies, profited by increased growth later on, and so became broad-heads with heads much larger than are those of the pygmies. Soon, in the history of civilisation, we find the moderately long-headed and the more or less broad-headed peoples living side by side, with a sprinkling of the very high, narrow, long heads among them. This may be held to describe very broadly and summarily the head characters of the peoples of ancient civilisation on the Mesopotamian rivers and the Nile. It seems likely that a long period elapsed before there was very much spread of civilisation far beyond this region. We may think that some drifts of men, chiefly long-headed, had moved from time to time either south of the Himalayas towards the East Indies, or north-west of the Hindu Kush into Turkestan and Siberia and even to America, or north-west from Iran and Anatolia into South Russia and into Thrace, and so probably along the belt of *loess* soil (loose material not rich in forest) into Western Europe, or south and south-west into torrid Africa. But it seems the most useful hypothesis to hold for the present, largely on negative evidence it is admitted, that very little agriculture had spread from the lands of the ancient rivers before some period roughly dateable about 3,000 B.C. Then seems to have followed another great crisis in man's story. In both Mesopotamia and Egypt, after a phase of great development, the civilisations of the ancient world become disturbed, and, for a time, much impoverished about 2,500 B.C. Ere this comes about, however, there is a great expansion; cities develop on the site of the later Troy (Hissarlik II.), at Knossos and elsewhere in Crete, apparently at Mohenjo Daro and Harappa on the Indus, and perhaps in North-

Western China. At any rate, civilisation, with evident relations to that of Mesopotamia more especially, appears in these and other regions (South Russia, etc.) There is some reason to think that people with a command of the horse did a great deal both to upset the ancient world, which does not appear to have known that animal as a companion, and to spread conquest and culture far and wide.

By this time the high plateau east of the Tianshan mountains, including Gobi, must have become habitable, and it seems to have received already earlier some drifts of people still without agriculture or domestic animals.

We have thus reached the stage of human story at which movements in various directions were giving the world its main racial elements, and in the next section it will be our duty to follow the movements in the following chief directions, determined largely by geographical obstacles and opportunities. In doing so it will be advisable to follow not only the spreads of early cultivators but also the various drifts that seem to precede them.

The directions, from the ancient riverine lands, are broadly as follows:

1. Drifts into and through torrid Africa, including early drifts from the south flank of the early home on the then Saharan grassland, as well as later drifts via the Nile, and, probably, the Red Sea and the straits of Bab-el-Mandeb.

2. Drifts into India, Malaysia, the East Indies, and beyond, including early drifts when the coastline was approximately what is now the hundred-fathom line and later drifts, usually of cultivators, some being quite late, and, in the Pacific, maritime.

3. Drifts north-eastward, probably flanking the Hindu Kush, into Turkestan, Siberia, Gobi, China, Japan, and America.

4. Drifts into Europe, some early on the north

side of the early home, across land bridges between Tunis and Sicily, and even perhaps between the Riff and Spain, and some via Anatolia and Thrace or the Ægean, and some via Turkestan or the flanks of the Caucasus into South Russia and beyond.

CHAPTER II

RACE IN AFRICA

IN North Africa we have survivals on the spot, or displacements towards the Mediterranean, of race types which have been in or near the Sahara-Arabia zone from the early days of modern types of man. Collignon describes a "Type Gétulien" in North Africa with long, narrow, high head, and one can recognise such a type in many parts of the North African region grading into a less extreme form of long-head. Elliot Smith has emphasised the continuity of type among Egyptian fellahin from the remotest times to the present day, and his work is based upon much study of early burials. The name Hamite has often been used for the average North African long-head who cannot quite be included among Mediterranean types (see Chapter VII.) because the skin colour is too marked, and the same term has often been used for a number of more or less related North African languages apart from Arabic. This double usage is a source of confusion, but less so than the double usage of such a term as Celtic, employed at times to denote a race, at others a linguistic group, and, indeed, with other meanings as well. Elliot Smith has used the term Brown Race to cover at least the long-heads of North Africa and the long-heads of Arabia and its borders, and it has at times been extended to cover the long-heads of the West Mediterranean and the general population of long-heads spread over a large part of the Deccan in India. It is a useful name, especially if kept for the long-heads of North Africa and of Arabia and its borders. Here the skin is brown, often with a reddish tinge, and the head is long, but there are several differences. Generally speaking, the long-headed population of the borders of Arabia has a sharper profile and a more regular, more prominent, narrower nose than have the long-headed people of North Africa and the Nile, and the linguistic term Semite has rather unfortunately been applied to the former. The nose, then, in North Africa is often fairly short and the nostrils fairly wide, though these features are not by any means so marked as among the peoples of torrid Africa, and, besides, it is important to realise that Arabian stocks have influenced at various times the North African population, especially in the East. The hair is wavy or curly and typically black, but there are much fairer elements in the hill regions of Algeria and Morocco included among the Berber peoples. These fairer peoples are known for North Africa from the ancient Egyptian monuments as well as from modern times, and some think they indicate a southward drift from Europe. Generally the North African long-head is of moderate stature and of relatively spare build. There are broad-heads here and there—as, for example, on Gerba Island, off Tunis—and Elliot Smith has described broad-headed elements as coming into the population of ancient Egypt during the Fourth Dynasty—*i.e.*, between 3,000 and 2,700 B.C. Rodd has recently suggested that some Saharan types still show the characteristics found in the Cro Magnon skeleton of the very early (Aurignacian) period of men of modern type. It is also known that what may have been pygmies were known in ancient Egypt; they may have been brought in from torrid Africa. Allied to the population of North Africa rather than to that of equatorial Africa in general are the people of the dry eastern horn of Africa that has its point at Cape Guardafui; they include Gallas of dark skin, with wavy or curly hair, fairly long heads, moderate stature, and fairly well-developed profile. In Abyssinia elements of this kind are numerous, but there is also a broader-headed strain akin to the people of South Arabia. A good many peoples on the east side of Africa, however, have characteristics also connecting them with the generality of the population of torrid Africa, which must now be considered.

In the first chapter suggestions have been made about the probably grassland character of the Sahara during the last major phase of the Ice Age of Europe and Asia. It is not that a desert belt was absent; it existed, but lay farther to the south and was narrower. Beyond it towards the Equator lay a belt of high grass, and then the rain forest more or less as now; but apparently it was somewhat cooler, and so the forest, which is limited largely by rates of evaporation from leaves, was wider spread than now for climatic reasons. The indigenous agriculture of torrid Africa with its fire-clearing is highly destructive of the rain-forest in the end, for that forest is a very complex product of growth and adaptation through geological ages *in situ*, and the growth that springs up after a burning is very different from the original one, and repeated burnings and rough cultivation may reduce an area to what is little better than desert. Another difficulty of the environment is that, while decayed vegetation is a most precious manure if it be not too much exposed to a very warm sun, under conditions of long exposure in equatorial regions the chemical power of the sun's rays, which is at its highest there, may ultimately lead to changes which draw up the soluble iron constituents to the surface and lead to their being deposited there as the moisture evaporates; so in the end an armour-plated desert may be spread in a region which was once equatorial forest. This is, however, a very extreme case. These points may help to interpret some of the facts about peoples of Africa.

We may be sure that those early types of modern man which drifted southward from the then Saharan grassland were not the ablest or most enterprising, but rather the more dejected who were pressed in that direction with impoverishment of their life in the desert and little chance of doing much with the equatorial forests. Moreover, modern man is a creature of temperate clime, and a drift towards the Equator meant putting up with trying conditions as regards dispersion of heat, and consequently it involved difficulties about mental and physical energy, and about growth as well in some cases.

The character of the skin in torrid Africa varies to a considerable extent, but generally shows adaptations to heat dispersion and to the meeting of other difficulties of such a region. In the first place, the skin is often soft, rather than dry and hard. Secretions keep the live cells from drying too quickly, in spite of enormous evaporation from large sweat glands with loose pores. Both the large evaporation and the lack of a thick, dry layer promote the dispersion of internal heat, and the development of sweat glands is a valuable supplement to the kidneys, which are not at their best under very warm conditions. This skin activity appears to have led in a number of cases to large development of the bloodvessels (capillaries) of the skin, so that, when a fleshy surface is pressed with a finger, removal of the pressure does not mean instantaneous obliteration of the depression as with us; the hollow only gradually fills up as the capillaries fill again. A skin full of bloodvessels and sweat glands, evaporation from which is of prime importance, does not lend itself to marked hair growth, and body hair is very feebly developed in many parts. The pygmies, who in some things preserve what one may call baby characters, often have a good deal of the downy hair of infancy, and may retain it throughout life. The hair of the apes and monkeys, and the downy hair of the human baby, and the adult hair of the wavy-haired and straight-haired peoples all grow from roots which have a practically straight course obliquely upwards to the surface from the deeper parts of the skin. According to observations that need further confirmation, it is just after birth among the peoples of torrid Africa that the roots of the head hairs become markedly curved so that they lie near the skin surface. The curving of the roots and the looseness of the hair pores give the hair its characteristic form. It is a rather flat oval, with one diameter of the section thirty to seventy per cent. of the other, a consequence of the shape of the pores, and with marked curvature and many kinks, due to the shape of the roots and the looseness of the pores. In several types the neighbouring hairs tend to wind round one another, and may thus leave intermediate spaces on the head with only the hair bases as a covering. This arrangement is sometimes described as " peppercorn hair." The colour of the skin varies considerably. In some cases, as among some forest pygmies, the skin is yellowish and rather drier than is usual in equatorial Africa. Whether the paucity of dark pigment is to be interpreted as a result of life in the forest shade, or whether it is another of the " baby characters " of these people is not clear. Elsewhere the skin varies in colour from a chocolate-brown to an almost pure black, and sometimes people of different tints are found living side by side in the same village. Nevertheless, there seems to be some amount of adaptation in skin tints. The blackest tints occur in some spots in which old populations have found refuge, and they might thence be considered as an old character surviving here and there. This interpretation is, however, of doubtful value, and it is generally true that the regions with the blackest tints are lowland regions with long dry seasons, though not all such places have very black people. It is useful at present to think that the blackest skinned groups are those which have mingled relatively little with lighter skinned conquerors, and that they occur in several cases under conditions of long, dry isolation, in some cases in areas unsuitable for much cattle, so that hunting is an important aid to life. Conquerors generally avoid such areas, if possible, for their settlement. It is notable that some of these peoples with the blackest skins are very tall, and that their tallness is of the very lanky and extremely long-legged variety; some serious observers think that these features indicate great influence of the secretions of the pituitary body during growth. Such growth, when found as an abnormality in other parts of the world, has been found at times to be due to unusually large secretion of one part of the pituitary. The very dark, lanky people are often also people with strongly projecting mouths, and this character again is associated, when it occurs as an abnormality in other regions, with powerful pituitary secretions. It seems that most of the people in Africa who are very tall are also quite long-headed, and an indirect connection between this and special pituitary activity has been guessed at. The richest chocolate-brown tints are said to occur particularly in regions of continuous moist heat, and may be connected with the large development of skin blood-vessels that is also frequent in such situations, the tint being due partly to brown pigment that is not quite dense enough to give the effect of black, and partly to the blood colour. A certain amount of brown pigment could be understood as an adaptation to withstand excessive influence of the sun's chemically active rays, but there is too much for that. It may be that some of the sun's heating rays are absorbed better at the surface, thanks to this pigment, instead of being allowed to penetrate farther in. It is also known that among other peoples in other regions colour darkening occurs under conditions of poor health, and it may well be that the very dark colour of many African peoples is an expression of the difficulty and incompleteness of the adaptation of the human constitution to torrid conditions. Investigations on all these points by Dr. Shaxby may throw new light on the problems, and it is at least interesting that in some marine animals the patterns of dark pigment indicate the patterns of skin bloodvessels, the pigment being in the skin overlying the bloodvessel. It may well be, too, that the dark brown pigment is a by-product of the excretory function, performed to an unusual extent in the torrid lands by the sweat glands. In any case, it is well to think of the dark colouring as merely a part of a many-sided modification of the skin under torrid conditions in Africa, and not to require the same interpretations when we come to dark skins elsewhere, among peoples of other types.

Torrid Africa has received many invaders, both from the north across the Sahara and along its borders, and from the north-east, where, as stated above, more or less North African types stretch down, relatively pure, into the dry lands of the horn of Africa behind Cape Guardafui. Towards the south-west border of those dry lands of the east, as well as along the southern border of the Sudan, there are many people who combine something of the North African with a good deal of the torrid African type, the latter element being recognisable by the kinky hair, the rather flat, broad nose, and, usually, the projecting mouth with lips everted, probably for cooling purposes. Where the former element is stronger, the profile is usually sharper, and the nose correspondingly narrower and sharper. In Nigeria, among the Hausa, the more fully torrid African characters are general, but among the Fula the North African features are marked. The Hausa have become more especially cultivators, while the Fula came in as conquerors, and are, or were, to a large extent pastoralists. In the Sudan generally—that is, along the southern border of the Sahara—North African elements are powerful in matters of language and religion, but farther south, even among peoples who may often have fairly sharp profiles, the languages belong to one great family with the name of Bantu, and they have many peculiar sounds (clicks, etc.) which mark them off as including features that are very old in equatorial Africa. The northern limit of the Bantu languages is approximately a line from Calabar eastwards to the Kenya Mountains, and thence southward to Mombasa. Conquerors in the Bantu region have usually been cattlemen, and in many cases have forced conquered folk to cultivate for them. Conquered peoples have sometimes been driven into fly belts, where insects make the keeping of cattle, beyond, perhaps, a royal herd, very difficult, or into the forests. The swamps of the Bahr-el-Ghazal, west of the Nile, harbour many ancient groups, some with extremely long heads, who are also among the tallest and the darkest of Africans. The great equatorial forest survives up to the present along the Guinea coastlands, except parts of the Gold Coast, which faces south-east, and in the Congo Basin, and here one finds a number of probably ancient types in addition to the pygmies already mentioned. It has been said that some of the pygmies are yellowish, others are very black; most have small round heads and peppercorn head hair, with some downy hair on the body, or even in some cases black adult hair on parts of the body. There are said to be persons of peculiarly ape-like appearance among the forest peoples of equatorial Africa. In South-West Africa the Bushmen are physically, in some ways, akin to the pygmies of equatorial regions; their heads vary from medium proportions, with small size, to the long-headed condition; their colour is yellow-grey, their stature is short, their nose very flat, but their mouths not by any means always projecting; the buttocks may be very fat, especially among the women. The Korana of some parts of the Orange River have included men with very long heads and prominent brows, more akin to the early types of modern man discussed in connection with North Africa.

In the West African forest country is found the rather tall, strongly built negro with short legs and long arms, long-headed, even very much so, but with bulging forehead instead of prominent brow ridges; the mouth usually projects forwards, and the lips are everted; the nose is broad and flat. It seems thus to have been into an Africa inhabited by a considerable variety of old types that cattle-men with North African inheritance penetrated, mingling with the women of the conquered folk. Agriculture is mainly the work of the conquered peoples, and it is therefore not surprising that it has remained in the stage of hoe culture, that almost all cultivated plants are introductions from the north or, in recent centuries, from America, that the social organisation in the north is allied to the patriarchal tribalism of pastoralists of the grasslands, but that, in the torrid zone, all sorts of combinations of this with more purely indigenous elements occur. On the southern grasslands—that is, south of the Congo Forest—many groups are, or were, of the nature of military hordes—men, women, and children gathered round a warrior of prestige; they have often dispersed and regrouped themselves as prestige changed. The agricultural element is stronger on the eastern side of Africa with its better watered land, while pastoral conditions are more dominant in parts of the west. Southward and south-westward movements have been very important and oft-repeated, but there have been northward spreads of conquering hordes, especially of the Ama Zulu, who show North African features in a rather special degree, and are said to have spread south four or five centuries ago.

In many parts of torrid Africa—as, for example, in the Sudan and in the southern part of the Congo region—there are broad-headed elements which do not seem to owe their head form to pygmy admixture, for they are not seldom tall. In recent centuries slave-raiders, sometimes of South Arabian origin, have played a notorious part in Africa, and it may be that South Arabians have intervened in Africa for a much longer time still. Broad-heads occur here and there in the Sudan, along parts of the upper courses of the Bahr-el-Ghazal (of the Nile), and here and there (with shorter stature, for the most part) in the Congo region.

Practically every element of the population of Africa south of the Sahara and Abyssinia, apart from nineteenth-century intrusions, has kinky head hair, and most have everted lips, but the profile, stature, and colour vary very considerably. Difficulties of social organisation throughout the region, due to climate and to fly belts, as well as to isolation from the great centres of civilisation, have been greatly complicated by a long succession of slave-raids, which even now have not ceased. The health of many populations is poor, and a medical man, borrowing the phraseology of 1914-1918, says of many that they are not C3 but Z26 groups. In several parts agriculture remains so primitive that the village is moved every few years, a state of affairs of which we have traces in prehistoric Europe, and some few surviving instances in the hill country of Central India. It is possible that help given to these populations to stabilise their life and settlements, to reduce disease and promote child welfare, to give education and other interests which might delay the plenary development of the sex passions, might in a century or two effect considerable changes in native Africa by improvement of the breed. Attempts to impart European notions and habits ready made have not prospered well, and the study of the physiology and sociology of the African peoples, and especially of their land tenure schemes, is a matter of practical as well as of scientific importance, for betterment efforts must be solidly built on whatever can be saved of the native tradition if they are to be of lasting value. Abyssinia, among its mountains, stands out as a problem apart, with a North African foundation to its population and a much more complex social organisation than black Africa. It was already on a fairly high level of culture some centuries B.C. South Arabian influences, as well as many from the Nile, have played upon it, and it is likely that exploration of its recesses would reveal a variety of types, including survivals of ancient ones. Slavery must have brought a number of elements from equatorial Africa into the Abyssinian highlands.

The time has hardly yet come when we can link the early drifts of men into torrid Africa with various cultures of which we have traces in the forms of implements, etc. There can be little doubt that the Bushman art and mode of life is in several ways analogous to that of the later part of the Old Stone Age of South-West Europe, probably in the sense that both were spreads, in different directions, from North Africa. Many finds seem to indicate that a drift of the peoples of the end of the Old Stone Age went southwards, it would seem, as the Sahara dried, but one should not date the arrival of such a drift in South Africa by reference to the probable date of its departure from the north. There is a good deal of evidence of considerable movements into West Africa and into the Congo region, at least during the general dispersal of the early part of the third millennium B.C., with the carrying of the arts of agriculture, of stone grinding, and, in places, of metallurgy in copper or bronze. Probably the spread of the potter's art is an early phase of this movement, which found many peoples in the hunting stage with tools of the types of the end of the Old Stone Age. Whereas the drifts of the early part of the third millennium B.C. started cities in India and history in China and the urban and rural civilisations of the Mediterranean and of Danubian Europe respectively, they seem to have been poorer and fragmentary in torrid Africa, and one finds indications that their influence largely faded away, though it left some knowledge of agriculture, without, however, the use of the plough or the idea of the city. The cattle-men who have successively conquered Africa have usually begun as patriarchal folk, despising cultivation and deeply conservative, and have often become military hordes. They have generally tried to make conquered peoples work for them, and with the absence of an idea of the city, one finds that in several districts the smiths and other craftsmen are still nomads, like our traditional tinkers in Europe, outside the social organism. This is another reason for the weak development of civilisation in equatorial Africa. We do not as yet know much about subsequent movements into Africa until we come to the Muhammadan waves across the Sahara and along the Sudan. The voyages of discovery of the sixteenth and seventeenth centuries brought the great crisis of African history. Not only did slave-raiders under Portuguese and English and other direction deeply disturb African societies, extending the troubles due to Arab slave-traders begun in earlier centuries, but less unworthy influences made themselves felt in the direction of Europeanising the African peoples, sometimes for good, more often for ill because of lack of knowledge of the real conditions. One unquestioned good was the spreading in Africa of many cultivated plants native to torrid America, a fact which might have lifted Africa on to a higher level had not the slave-trade struck at the root of social stability. In the nineteenth century there had been added another crisis, due to the efforts of rival imperialisms to import raw material into Europe for manufactures and for fodder, etc.; this has again disturbed native development, sometimes for good, oftener, again, for ill, through lack of understanding of the relations of landholding to society. The mandate system of the

League of Nations is a first experiment in the direction of international responsibility, and suggests the possibility of very varying schemes for various climates and peoples under expert guidance. Africa is under-populated, and medical care and health education may make a great difference to numbers and quality of the population, if respect for native group ownership of land can be developed and the influence of traders and shippers can be moderated in the interests of native communities and their evolution. It is felt by many that the best Bantu stocks have large possibilities of development under the best European guidance, whatever may be the ultimate fate of the lowlier peoples, for the mere hunters can hardly survive the multiplication of European contacts. The need of stable and healthy African societies is a very great one, as the future of the world's civilisation is intimately bound up with the assurance of supplies from the inter-tropical lands, supplies that only native peoples can produce in such climates.

CHAPTER III

THROUGH SOUTH ASIA TO THE PACIFIC

To understand something of the drifts of types of modern men in this direction we should realise, firstly, that, in the last major phase of the Ice Age, the gradation from the ice sheets of the Himalayas towards subequatorial conditions farther south must have been a sharp one, and this implies that the melting snow and ice flooded the lowlands now occupied by the Ganges and Indus. Next we should realise that that phase of the Ice Age was in all probability correlated with an upward movement of the land, so that the coastline may have been somewhere not far from the present hundred-fathom line. That movement was one of the latest phases of the long succession of *oscillations right along the mountain* scheme of Alps, Armenian heights, Himalayas, and East Indian ranges, known to geologists as the Tertiary mountain systems, and the oscillations represent the dying down of the great movements at the time of their formation. The position of the coastline just mentioned would make the Persian Gulf land, and would add considerably to the land in the more northerly part of Western India. Sumatra, Java, and Bali would all be part of the Malay Peninsula, which would have stretched from the Mekong to Borneo and Palawan. This great land mass may have been separated by *narrow straits from* a great island, of which the Philippines are remnants, and *from* another long island, of which the *chain* from Lombok to Ombaya remains. North Australia and New Guinea would also have been united. Without going into more detail, it is clear that, while these conditions more or less persisted, the drift of man across from Mesopotamia via South India and the East Indies to parts of Melanesia and to Australia did not involve crossing long stretches of sea. It is natural that the drifts in this direction have some analogies with those that went southward into Africa. Pygmy peoples, with small, roundish heads and kinky, often peppercorn hair, like those of Africa, but here all black, or very dark brown, have drifted east as well as south, and remnants of the eastward drift are found among the Andamanese, the Semang of Malaysia, the Tapiro and others in New Guinea, the Aetas of the Philippines, and probably some peoples of Melanesia. They are usually mere hunters and collectors, and the remnants occur in dense forest areas; it is said that some in New Guinea have learned a little agriculture, while the Andaman islanders, at least, have learned stray fragments of the higher arts. The pygmies of this region are either almost without body hair (Andamanese and Semang) or richly provided with it (Tapiro and Aeta). The Samang and Aeta have broad, very flat noses, but though the lips may be thick, they are not everted. Stature is usually under five feet for an adult man. In the case of Africa, it was noticed that the spreads southward beyond the equatorial forest did not illustrate the pygmy type, though the Bushman, as it were, grades from the pygmy type with a small, roundish head to a very long-headed type. So also, in the case of the south-eastward spread beyond the equatorial forest of the East Indies, we have the Tasmanians, black and kinky haired like the pygmies, but of considerably better stature, and with heads grading from the small, roundish form to an extreme of length. In the present state of ignorance we cannot but suppose that their characters were, in the main, developed during their drift through South Asia and the East Indies, and that possibly their residence in the cool climate of Tasmania accounts for their taller stature, but may not have been long enough to adjust their skin colour, which was very dark, or their noses, which were very broad. They have become extinct within the last half-century, unfortunately before full records of their lives had been made.

In the case of Africa, it was stated that the Korana of the Orange River, and perhaps others, illustrate a strongly built, fairly tall type with a very long head and strong brow ridges. The development of brow ridges is, generally speaking, slight in Africa. The drifts through South Asia towards the Pacific must have included quite a large element of this long-headed, brow-ridged type, though the brow ridges are present only in some cases. In Africa, again, the general population shares with pygmies the possession of kinky hair on the head, though the downy hair of infancy is wavy and grows from deep, and more or less straight, roots like most human and ape hair. Among the peoples of South Asia, Malaysia, and beyond we find kinky hair in Melanesia and Papua as a feature of the long-headed populations as well as of the pygmies, but it has clearly never been so general as it is in Africa. The fact that Papua and Melanesia have it shows that, as they are at an end of the zone of old-time non-maritime migration in this direction, it is a feature that has been pressed out there, and probably it is thus also an old feature, a feature of an ancient drift which was not anything like so strong as the southward drift of kinky haired people through Africa. We may thus suppose that kinky hair was an early specialisation on the south flank of the primal home of modern man, a specialisation which, therefore, was far more likely to abound in the southward drifts than in the drifts through India and Malaysia, which came from the eastern end of the primal home. It is thought that some kinky haired people lingered here and there in South Asia into historic times (some monuments in

Persia seem to hint at this), but it is quite probable that the drifts of this type occurred largely along the then coastal plains now for the most part submerged. It is quite likely that the submergence helps to account for the relatively small penetration of the kinky haired element in this direction. Most of the peoples with kinky hair in Papua and Melanesia are long-headed and not tall, but there are broader-headed elements which some ascribe to pygmy admixture. The nose is broad, but often much less flat than in Africa, and the brow ridges are prominent in a good many Papuans, but less so in Melanesia. The Melanesian types have spread in the Pacific Ocean since sea-boats able to do fairly long voyages have come into use, but here they are very variable in their characters, owing to admixture. Some few tall strains occur.

More important in South Asia and beyond are the very long-headed peoples (breadth often 72 per cent. of length, or less) with wavy hair and moderately short, average stature. Many have the prominent brow ridges and strong cheek-bones of some of the early types of modern man as known from North Africa and South-West Europe, and of such people as the Korana in South Africa. The drift of this type is more fully traceable than that of the kinky haired folk, for they occur still among the jungle tribes and even among the most civilised elements in Southern India; they are represented by the Vedda in Ceylon and the Sakai of the Malay Peninsula; it is evident that they make one element in the very mixed population of the East Indies, notably among the Toala in Celebes; and their type is that of the native Australians. The hair of these people is usually wavy or curly, and, in section, one diameter of the hair is often from 55 to 75 per cent. of the other, but lank hair is sometimes found. The nose is generally broad and may be flat, but is usually more prominent than that of the non-Bantu African of the centre or south; it is only moderately broad in the Vedda of Ceylon. The lips are not everted, but they are often quite thick. The mouth generally projects forwards, and some types—*e.g.*, the Australians—often have a high ridged head behind a retreating forehead.

Reference was made in the introductory chapter to the differences between the extremely long-headed and the moderately long-headed types of man. The latter form an important part of the population of South India—in fact, of the whole of the Deccan and of parts farther north, and of the East Indies, Further India, and, with modifications due to admixture, of South China. The skin on the Deccan is brown and may be very dark, especially where the stock has mixed with the older extreme long-heads; head hair is abundant and is often inclined to curl, and the nose is moderate—*i.e.*, not nearly so broad as among the majority of the extreme long-heads. The corresponding people in Further India, South China, and the East Indies, especially in the two former, often show what appears to be admixture with more northerly Chinese stocks, to be discussed in the next section. After that discussion another chapter will be added summarising region by region the people of the monsoon lands of South and East Asia.

To the moderately long-headed, moderate nosed, dark-skinned people of the Deccan the name Dravidian has been given and is a source of confusion, for it has come to be used also for the languages of the Deccan peoples. The origins, paths of dispersion, modes of development, and date of arrival in the Deccan of the Dravidian languages, and those of many features of the civilisation of the Deccan, may be only indirectly related to the origins, dates of arrival, and zones of movement of the people just described as forming the main part of the Deccan's population. The Brahui language in Baluchistan is of the Dravidian family, and this suggests that the languages came overland from the west somewhere. Sir John Marshall has recently uncovered Harappa and Mohenjo Daro near the Indus, cities with a civilisation related to that of Sumer in the third millennium B.C., and it may have been at that time that the idea of the city reached India, as has been suggested above. Related to these cities are stations in a pass from Baluchistan, so there again we have hints of a spread by land. It seems likely enough that many moderately long-headed people were spreading into Europe and elsewhere at that time, but it would be hazardous to link the spread of the city idea with the spread of the Dravidian languages, or with the spread of the moderate long-heads into the Deccan, especially as a statue head from one of these cities is decidedly broad.

The Asiatic monsoon lands, and Java in the East Indies, have offered such attractions to mankind through their wealth of many kinds that many invasions, as well as drifts of later times with better equipment, have affected their population, while Polynesia beyond has also received these later drifts, in this case in boats. Movements of men with good equipment and organisation have been less determined by physical features, and the Asiatic monsoon lands, the East Indies, and Polynesia have thus received peoples in many places with characters which appear to have developed north of the Hindu Kush and Himalaya. It will therefore be advisable to return to the subject of the population of South-East Asia, the East Indies, and the Pacific after dealing with the north-north-eastward drifts of mankind and the features developed among those peoples.

This chapter must close, therefore, without any completeness, and only a few disconnected points remain to be mentioned. The population of the Bombay Presidency, including Nagar Brahman, Prabhu, Maratha, and Coorg, has in it a number of broad-heads not in any way akin to the broad-heads of the Eastern Himalayas and Central Asia, but more like some broad-headed peoples of West Asia and South-East Europe, on the whole; the nose is fairly narrow, and the stature may be great. They were once provisionally called Scytho-Dravidian, but Haddon and others have urged the dropping of this unfortunate name. It may be that they, and the Brahui of Baluchistan, whose language is Dravidian and whose heads are broad, are connected with the spread of the city idea to West India in the third millennium B.C., and thus provided considerable elements of the civilisation of the Deccan. This, however, is little more than a surmise as yet.

The later spreads of population eastwards into and beyond the East Indies have been largely by boat, after the sinking of the land to its present level, probably with a phase in which it lay lower still. These spreads have gone, apparently, from island to island, and, it would seem, have generally avoided Australia. That continent, therefore, has depended for its population, until our own day, mainly upon the early drifts of man during a phase of uplift when New Guinea and Australia were apparently joined. Subsequently only strays have touched Australia, and it is an interesting, and perhaps insoluble, problem to settle how far they have influenced either the physical type or the social features of the native Australian. Maps and illustrations in Professor Sollas' classic *Ancient Hunters* may be studied by the reader who cares to follow up this line of thought.

CHAPTER IV

NORTHWARD AND NORTH-EASTWARD DRIFTS IN ASIA

The grasslands of Turkestan are the next large area of lowland northwards and north-eastwards from the supposed primal home of modern types of man. It is now inhabited by broad-headed men, but there are reasons to think that its early population was a very long-headed one. This is but an inference, but a number of indications make it an almost necessary one. In the first place, graves of uncertain age, some of them belonging to the third millennium B.C., or even later, but some probably older, have yielded skeletons of tall men with long heads and strong profiles: these have been found mostly in the South Russian (*i.e.*, European) part of the steppe, and we unfortunately have very little information about the Asiatic part of the steppe in this matter. Secondly, the early burials at Anau, of uncertain but early date, and probably belonging to the fourth or fifth millennium B.C., have yielded moderately long-headed types. Thirdly, some prehistoric skeletons found in Siberia are very long-headed. Fourthly, the drifts of men north-eastwards through Asia have, in part, gone around the Behring Straits and Aleutian Isles and the Arctic ice to America, and some parts of America most remote from the Behring region and of the nature of " ultimate corners " have very long-headed types. One might cite a number, but it will suffice to mention the Greenland Eskimo and some of the types from the Brazilian plateau, notably those described by Rivet from Lagoa Santa. The argument thus is that, if very long-headed types have drifted to "ultimate corners" in this direction (*i.e.*, drifting via North-East Asia), they presumably started on their journey long ago, and would thus have been an early element of the population of the region on the north-east of what is here supposed to be the primal home of modern man. In view of many statements as to the origin of man in Central Asia, it may be wise to state that that hypothesis is not discussed here, but only the matter of the origin of modern types, and that the views expressed here are largely, though not perhaps completely, in accord with those of Dr. Haddon. Dr. Halfdan Bryn's views of the origin of man, and apparently of modern types, in Central Asia at a period very remote geologically are not discussed here, as it is felt that they have insufficient foundation and are most difficult to imagine. Fifthly, it seems that long-headed men were once numerous on the steppes of Turkestan and South Russia, for it is the general view that the long-headed Aryans or Indo-Aryans of North-West India came from beyond the mountains from a grassland where they had a pastoral tradition. It seems also that long-headed steppe-men penetrated from South Russia also towards the Baltic in prehistoric times, and formed an important element of the people whose remains have been found there in early graves, now fairly widely allocated to the dawn of the Age of Metal. It is evident that these indications are not conclusive, but, taken together, they do justify the provisional inference that a tall, long-headed population, including a large proportion of extreme long-heads, lived long ago on the Euro-Asiatic steppe. We may picture it as spreading northwards from the eastern part of the primal home, probably as the excessive moisture of Western Asia in the latter part of the Ice Age cleared away. It seems likely that Turkestan then became a sea of grass, well provided with water for many centuries from the melting of remnants of former great ice sheets, but becoming less hospitable on the whole as time went on. The change of climate and condition would not be continuous, but it is a little venturesome, nevertheless, to argue for quite such definite cycles as does Ellsworth Huntington in his *Pulse of Asia* and other later books.

It is now known, through the work of Italian geographers, that the Ice Age in the Himalayan region went through what were broadly the same phases as did the Ice Age in Europe save that the first maximum (The "Gunz") seems to be less marked. It seems therefore likely that the high plateau of Central Asia, and especially the great mountain land of Tibet, remained glaciated for some time while the ice sheets were retreating in Europe. It is dangerous to build upon negative evidence, but, up to the present, no clear traces of the men and cultures of the later part of the Old Stone Age (known in Europe as the Aurignacian, Solutrean and Magdalenian phases) have been discovered on the central highland of Asia, though explorers have met with remains that could be ascribed to the very end of the Old Stone Age, the period of the great shift of the climate belts described in an earlier chapter. If it is understood as a mere working hypothesis, there is every reason at the moment to suppose that the central highland of Asia only gradually became available to modern types of man, but that these types of man found it far better provided with water than it has been in recent centuries. With this hypothesis we can understand that there may well have been a drift of men towards and into the central highland of Asia, and beyond, during the age between the change of the climate belts and the spread of the arts associated with metallurgy. It is a further useful hypothesis to suppose that the people who thus spread were broad-headed people from the highlands north of Mesopotamia (see Chapters I. and VII.) rather than long-headed peoples of the primal home. However this may be, Central Asia is, and apparently long has been, the home of broad-headed types; they show some further specialisations of great importance which can be interpreted as related to the conditions of the great highland. In studying Central Asia it will be well to distinguish the mountain valleys of the Hindu Kush and Pamir from the great plateau of Mongolia as well as from the mountain country of Tibet. Many of the broad-heads of the valleys of the Hindu Kush and Pamir and the western part of Chinese Turkestan are more or less like the broad-heads of the Alpine region of Europe in general type, and they may be thought of as drifts in both directions along more or less highland-zones from Anatolia, where broad-headedness has had a special further development. On the plateau the climate is naturally very dry, with bitter cold in winter and strong sunshine in summer; strong winds add to the drying and cooling power of the atmosphere, and the barometer stands extremely high for very long periods in the winter. Under these conditions it would seem that human skin has been modified in the direction of limiting heat loss. The dry layers are thick and the bloodvessels are deeply sunk, so that the skin has a yellow tinge, which, however, may be complicated by more or less development of brown as is usual for a region of strong exposure to glare. Yellow-brown, dry skin is very widespread. With this has gone the limiting of sweat glands and the strengthening of sweat and hair pores, so that they may be firmly closed. The hair pores, firm and round, give a regular, almost cylindrical, section to the hair, which grows very nearly straight, and is usually coarse. The amount of body hair is small in most cases, as is also the amount of beard, save among some types which seem to have an admixture with long-headed hairy types to be discussed later. Some other characters are widespread, but by no means universal, on the high plateau of Central Asia. There seems to be a widespread tendency to strong growth of the cheek-bones laterally among a good many peoples of regions with a strong anticyclone in winter, and here it is often very marked. Among some types there is also an insinking of the nasal chambers, so that the face is flat, but some Buriats have well-marked profiles. The upper eyelid has an external downfold, giving the eye-opening an oblique direction, but this, again, is not universal, though it is widely associated with the flattened face. Interpretations of these facial characters are mainly speculative. It is thought that as the cases of abnormal growth in Europe, associated with defect of some pituitary secretions, show flattening of the face and something of an eyelid fold, and a tendency to short legs, it may be that some part of the pituitary exercises less influence on growth in Central Asia than in Europe. It is at least interesting that in Africa, under conditions that contrast most sharply with those of Central Asia, there is the possibility that tall, lanky types with projecting mouths show a supernormal influence of some pituitary secretion. The insinking of the nasal chambers may well help to warm the air on its way down to the lungs; the eyelid fold may well have begun as a consequence of the flattening, and, once in existence, its value as a protection against glare may have been of importance for its increase. Both the broadening of the cheek-bones and the insinking of the nasal chambers have apparently contributed to a special broadening of the head, which is characteristically flat-topped. Cephalic indices of 86 and 87 or more are common as an average condition among certain groups, and the proportion of breadth to length of the head in other parts only rarely reaches such a high figure. The matter of the distribution of broad-headedness will be treated in a short chapter later on.

As one goes from Mongolia either north-north-eastwards to the Arctic, or eastwards into North China and Japan, or south-eastwards into South China, the heads become less broad in most cases, and it looks as though broad-headedness had spread in these directions at the expense of long-headedness, whether through the dominance of the broad-head over the long-head in mixed marriages, or because of pressure of populations one on another, with the long-headed types squeezed out to the periphery. There are, of course, irregularities and exceptions, but the above statement is nevertheless broadly true. Towards the Arctic, north of eastern Gobi, one finds people with medium heads, but with the strong cheek-bones and sometimes the flattened faces and oblique eye-slits already mentioned. They have a yellow-brown or yellow-white skin for the most part. The Northern Chinese are, again, medium-headed, but, again, have oblique eye-slits, and often, though not always, flattened faces. The skin tends to be yellow, with less brown than in Mongolia. South China seems to be more mixed in type with some broader- and some longer-headed types; Haddon uses the term Parœan for the broader-headed elements. Some have the oblique eye-slits and the broad cheek-bones and sunken noses. The skin colour varies from yellow in the north to brown in the south, and in some places the brown people have straight eyes and noses which are not sunk; they thus grade into the moderately long-headed people, noted in an earlier section in connection with Further India and the East Indies. Throughout those regions, however, the broad-headed element of South China also occurs, and the broader-headed elements of the East Indies, with brown skins, but some mixture with long-heads showing itself in facial characters, are called by Haddon and others Proto-Malay. The best interpretation at present is that the broad-headed character common in Central

Asia has spread south-eastwards through South China, Further India and the East Indies, meeting, and more or less dominating, physically, longer-headed groups due to a drift along a more southerly zone, probably via India, as indicated in an earlier section. The case is rather different in North China and Japan, for here the broad-headed type seems to have pushed out longer-headed types, and we have remnants of these among the Ainu of Yezo, South Sakhalin, and neighbouring regions. These people have whitish-brown skins, with strong blood colour at times over the prominent cheek-bones; they rarely show the obliquity of the eye and the other characters above noted unless they are of mixed descent. They have medium heads on the whole, but there are among them long-heads, and even extremely long-heads. Their most notable character is the possession of a unique quantity of body hair, a fact which makes them stand out in contrast to the Central Asiatic peoples.

The Arctic peoples west of the Yenisei, and some few farther east, are usually very broad-headed, and are known as Samoyedes, Yenisei Ostyaks, etc., in Asia, and as Lapps west of the White Sea in Europe. It is thought that they represent a drift northwards, via the Yenisei or thereabouts, and then westwards, as the retreat of the great Scandinavian ice sheet made this possible. They would thus be a comparatively late drift, dateable, nevertheless, well back in prehistoric time. They often, though not always, have flat faces and oblique eye-slits, but rarely the deep-sunk nose.

Some peoples of the extreme north-east of Asia, including the Chukchi, seem at first sight an exception to the general scheme suggested—namely, that of broad-headedness on the Mongolian plateau grading into longer-headedness around the northern and eastern periphery of Asia, but here we are not at the effective periphery; the extreme north-east of Asia is really on the route to North-West America, and in treating that continent we shall see much reason to believe that the foundations of its population are of Asiatic origin, and include extreme long-heads in far corners, with medium-heads in more or less intermediate stations, and broad-heads for the most part on the great western mountain lines, these broad-heads being very well marked towards the shores and among the isles of the Behring Sea.

It is likely that Tibet was long almost unapproachable by man because of the lingering of ice sheets after the Ice Age passed away. A good part of its population appears to have spread in from the high Mongolian plateau, as one would expect, but other types have also strayed in, some with fairly long heads and wavy, even curly, hair of a fairly light colour, probably arrivals from the steppes of Turkestan; some of these types have gone beyond Tibet into Eastern China.

The people of the Pamir, Hindu Kush, etc., have already been mentioned. They include broad-headed groups without the yellowness of skin and flatness of face common in the Gobi Desert. The skin over the cheek-bones may be rather highly coloured. On the great plains of Turkestan the population is mostly very broad-headed, with a tendency to high-headedness, which will be discussed for Anatolia in the section on the Mediterranean region and Europe. The skin is white, with a tendency towards yellow, the cheek-bones are often strong, but the profile is prominent. There is often a slight development of the eyelid fold, but the eye-slit is not oblique. Haddon has called these people the Turki, and it is evident that they have been an element among the Bulgarian and Turkish invaders of Europe, and possibly among the Magyars as well. There are "islands" of relatively long-headed peoples in the region between the Ob river and the Ural mountains, and it seems likely that in spreading into the northern pine forests of Western Siberia and European Russia, these people, and also the Arctic broad-heads, have mixed intimately with long-headed stocks. This is, provisionally, the best interpretation of some Ugrian or Finn types, and it is noteworthy that among them red hair is a common feature; it is a feature which seems to have arisen in several cases in which fairer and darker types with very different accompanying characters have mingled. Thus in certain parts of Great Britain there are nests of red hair mostly in places where an intrusive wedge of fairer broad-headed people ends among people of dark colouring with very long heads. In the case of the red Finns, it seems to be a mixture of darker broad-heads with lighter long-heads.

The broad-headed stocks of Turkestan, as stated at the beginning of this section, have replaced an older long-headed population of the steppe. It is likely that they came originally eastwards and north-eastwards from the Anatolian-Armenian region as a hillside drift, but how the replacement may have occurred we can hardly guess. The plains of Turkestan certainly became less hospitable in the course of time, and the long-heads seem to have spread out as conquerors, the later ones at least with the horse, to Europe, India, and Mesopotamia as well. The stock would thus apparently be at least weakened in Turkestan, and the people of the hillsides have apparently played an increasing part, especially as in some regions the nomads move regularly with the seasons between the plain and the hillsides. More intimate investigation may reveal more traces of long-heads on the steppe than are at present known, but this is doubtful.

CHAPTER V

THE PEOPLES OF THE ASIATIC MONSOON LANDS AND THE PACIFIC

THE drifts of mankind towards the east in Asia north and south of the Himalayan and Tibetan mountain systems have been treated in two separate chapters which could not give a reasonably unified sketch of any one region in which the two sets of drifts have mingled. It is therefore advisable to add a few short notes on the populations of the monsoon lands of Asia, the importance of which stands out at once when we reflect that, quantitatively, they have the greatest masses of population, including nearly half the world's total, and that qualitatively they have been of great value to the world's life, as is shown by the antiquity and long maintenance of civilisations developing philosophical and ethical thought and a specially high grade of handicraft. Moreover, whereas so much of our Western industrial civilisation is maintained upon expenditure of capital, and expresses itself in aggressive and disturbing activities, the civilisations of the East were built to last, though it is doubtful whether they can withstand the present " white peril."

INDIA

Taking India first of all, we find that racial differences are among the myriad factors that have given rise to the caste system. Jungle tribes and pariahs, or outcasts, are apt to include considerable numbers of people with very long, narrow, high heads, flat, broad noses, and very dark skins. Yet, especially in the extreme south, people who carry this type may be found among the educated leaders of society. It is as though in India, as well as in Western and Southern Europe, some representatives of the old types with the very long, narrow, high heads made an effort and established themselves in the more complex societies of later comers, while others, less vigorous, fell back before the task and now survive on a low rung of the ladder. Similar types are also found among the hills of Central India, some speaking Kolarian languages more primitive than the tongues of the Indian civilisations, and some living either in the jungle or in villages that have to be shifted every few years because of the low grade of agriculture that is practised. The general population of the Deccan, apart from some princely and aristocratic families and the people of the north-west, is formed of people with dark skins, little body hair, moderate noses, and fairly long heads. They usually speak Dravidian languages, three of the best developed of which are Tamil, Telugu, and Canarese, and they are thus often called Dravidians, but we cannot say whether these languages have been learned from outside conquerors or not. In the extreme south-west a mixture of the above types with wanderers from both Malaysia and the west has developed a very mixed language known as Malayalam, and has been rather separate from the rest of India through most of its history, and has interested itself in maritime commerce. In the north-west of the Deccan the population of moderately long heads has been mixed with an important broad-headed element having rather lighter skins and fairly narrow, prominent noses. The origins of this element are doubtful, but may be connected with the spread of the idea of the city from Sumer (Mesopotamia) to India in the third millennium B.C. The old theory, identifying them with Scythian invaders must apparently be given up.

The peoples of the Himalayan slopes and even of parts of the foot-hills, and, in the east, a good part of the population even of the lowlands includes a broad-headed element that in its facial features often shows hints of the characters of the broad, flat-faced types of parts of the highlands of Central Asia. On the more eastern lowlands it is mixed with the moderately long-headed element, and it has been called Mongolo-Dravidian, though there is serious objection to both halves of the compound name. Many members of it are now moderately long-headed. There seem to be survivals of the extreme long-heads here and there. In North-West India are found the lighter coloured, tall, very long-headed and narrow-headed people with a marked profile, who, in other parts of India, usually occur among the aristocracies. As the type is found purest in parts of Rajputana, and as an aristocracy in South India, it has been identified with the Aryas, the conquerors of India, who brought the Sanskrit languages and the thoughts of the Vedic literature to the land in the early part of the second millennium B.C., according to received opinion. It is quite probable that this view is broadly correct, the more so because the physical type is related to that in many ancient burials of the Russo-Asiatic steppe, the supposed earlier home of these conquerors, and because some of the gods of the conquering Aryas had names now also known as names of deities of peoples in Anatolia in the early part of the second millennium B.C. It may well be that a spread from the steppe brought men, originally related, both to India via the north-west, and to Anatolia either via Persia or via Thrace. Emphasis solely on the cephalic index would lead one to associate these supposed Aryan conquerors with the old types discussed at the beginning of this appendix, but this is not necessarily correct, though both these old types and the peoples of North-West India often have the cephalic index (relation of breath to length expressed as percentage) in the vicinity of seventy-two, a very low figure. It is probable that the very long and narrow features so marked in North-West India and Afghanistan are examples of a general accentuation of the middle line in growth; it shows itself in the high head, the strong profile with straight, narrow nose, the slim build, and the tall stature. This emphasis on the growth of the middle line seems to be a feature of several parts of West Asia, including Anatolia; it was noticed above in the reference to the strong profile of some Turki types. More or less Turki types seem to have been included among the later conquerors of North-West India. The lighter coloured types with strong profiles become less general east of the United Provinces, or the zone from Delhi to Benares. This is the region where the grasslands of the north-west graded into the primeval forest of the eastern side, and where, therefore, the "Aryan" invaders met and divided themselves among the forest clearings, dominating and mixing with native folk. This region is therefore naturally a region of special importance in the early and legendary history of India, in which one sometimes glimpses conquerors of rather rude vigour coming into a more urban civilisation. In this region are many of the early historic principalities and regal cities, and it is an area of extraordinarily numerous and complicated castes. Benares is significantly placed at the eastern end of the region as a rallying-point for native tradition mediated by Brahman exponents.

China

Whereas India has a most marked variety of race types and a unique caste system, which has many other factors of origin besides that of race, China has a much simpler race story and an absence of strong hereditary social distinctions. The cephalic index runs frequently to 86 or 87 in the Gobi area, but diminishes somewhat as one comes into China. It is as though this broad-headedness had developed to its utmost in parts of the Gobi area and the Central Asiatic high plateaux, and as though the earlier drifts from it had spread to China, Corea, and Japan with this particular character less developed. The hair is black and lank throughout most of China, and there is very little hair indeed on the body. The skin is brown in Gobi and in South China, but has paled to yellow-olive, in many cases, in North China. The cheek-bones are very strongly developed, and the nasal chambers are often sunk. There is often, especially in the north, the extra eyelid fold, and with it the oblique eye-slit. In South Chinese there are moderately long-headed elements who probably represent a still earlier part of the drift via Central Asia just mentioned, but they may be a spread from the south-east (see below); they are generally brown-skinned with rather wavy, black, or sometimes reddish, hair, and they often have the nasal chambers rather sunk and the cheek-bones projecting. The nose and cheek-bones are sometimes thought to indicate that they are an early wave of the drift from Central Asia, later waves becoming more broad-headed and increasing the density and the yellow element in the colour of the skin. The idea of a more or less continuous drift with the earliest waves long-headed and the later ones broad-headed, and with the high plateaux as its more immediate starting-point, is one which will be found useful in trying to interpret race questions in America, as Hrdlička, in particular, has shown.

Further India and the East Indies

In all this region one finds mainly a fairly long-headed, brown-skinned, wavy-haired element, which Haddon and Buxton have called Nesiot, usually as the lower stratum, with an upper stratum that is at least akin to, if not identical with, the brown-skinned, straight-haired, and broad-headed elements of South China.

The term Malay, originally a tribal name, has been used to describe a fairly wide range of types intermediate between the two now described, so far as the Malay Peninsula and the islands near it are concerned, but it is probably best used in connection with language. Reference was made in Chapter I. to the remnants of the kinky-haired types of pygmy stature with small, fairly broad heads, and to a few peoples with the very long, narrow, high heads also discussed in that chapter; and one should remember that the latter element, perhaps somewhat modified, may be more important in the population of the East Indies than is sometimes thought.

NEW GUINEA AND MELANESIA

New Guinea, like Africa south of the Sahara, illustrates the triumph of the kinky-haired character that is almost universal save in a few districts like the south-east, which Haddon has shown to be full of strays derived from maritime migrations. The background in New Guinea is apparently often pygmy, but rather taller elements are numerous and typically show extreme long-heads; it should be remembered that Africa also illustrates the combination of an extreme head length with kinky hair. The relationship of the New Guinea people to the extinct Tasmanians is generally allowed. East of New Guinea, in the island groups which lay almost together when the land stood higher, the same element as in New Guinea appears again, but is influenced more and more in the islands farther towards the Pacific by maritime migrants.

POLYNESIA

There is a good deal of information about Hindu migrants (including Indo-Aryan leaders, in all probability) into Further India perhaps a thousand years ago (the ruined city of Angkor is witness), and into Java from about the beginning of the Christian era, as is indicated by several ancient temples. These movements are to be taken as part of a migration stream which became increasingly maritime in the East Indies and spread into the Pacific, to form one element of the Polynesian peoples, with olive skins and what we are apt to call a very European appearance. Another Polynesian element is related rather to the South Chinese population; it is specially important in the more northerly parts of Polynesia. There are also broad-headed people with light skins, narrow noses, and a very European look in some cases. Polynesian migrations have doubtless carried more or less Melanesian elements with them, and the latter are really very widespread in the Pacific and very notable in Fiji. The Maori may be considered representative Polynesians with some Melanesian elements more or less incorporated.

JAPAN

Here the earliest drift is represented by the Ainu, and now restricted to the islands of Yezo and Sakhalin, with relatives on the adjacent mainland. These people include some individuals with very long, narrow, high heads, and others with moderately long heads; they are the hairiest of mankind, and their hair is wavy or even curly, their skin is whitey-brown, often with a high colour over the cheek-bones, the face is rather broad, the nose moderate or narrow. They are obviously survivors of an early drift, perhaps via Siberia rather than via the Central Highlands of Asia;

they tell tales of a still older race they exterminated. They probably mixed a good deal with later invaders, among whom we can distinguish a broad-headed type with dark yellow-brown skin, a short nose, and the oblique eye, as well as another, aristocratic type, also broad-headed, that has a strong profile, a prominent nose, and a lighter complexion. This last is also found in Corea, Manchuria, and some parts of Gobi; it has more body and face hair than has the ordinary Chinese type, and it may be that its characters are evidence of some mixture with long-headed types.

CHAPTER VI

AMERICA

THE best interpretation of the indigenous population of America is that it represents many phases of drifts via North-East Asia, the earliest drifts being generally located, now, in ultimate corners remote from the Behring region. The populations, therefore, from Central Asia around Alaska to the far ends of America, apart from European immigrants, thus give us stages of drifts analogous to the drift from Gobi into China and beyond. The results in both cases are that extreme long-heads occur chiefly in the far corners, and broad-heads are most characteristic near the source.

Hrdlička has investigated large numbers of Eskimo and other Arctic types, and finds that, while the Greenland Eskimo have very long, narrow, high heads, with narrow noses and strong cheek-bones, those farther west grade towards the Asiatic broad-heads of the high plateaux. In the Eskimo we seem to have the representatives of a drift of men very long inured to Arctic conditions, and, until white interference affected their mentality, very successful in their scheme of life. Possibilities of economic development of reindeer and musk-ox herds in Arctic America may depend largely on the possibility of maintaining the Eskimo, and his relations to European governments are being seriously discussed in Denmark, which has hitherto tried to keep the European trader right away and to supply Eskimo needs itself. Apparently another long-headed drift went through the northern forests to an ultimate home in what are now the Atlantic States of U.S.A. Another long-headed drift reached California, and has remnants also in Mexico, the heads are long, narrow, and high, and the noses broad. Still another reached the Matto Grosso plateau and East Brazil, where the Lagoa Santa skulls, some Botocudo people, and some remains from South-East Brazil illustrate it. Some ancient peoples on the west coast of South America and some people in South Patagonia and Tierra-del-Fuego are also very long-headed, and there are other remnants here and there. If we follow back along any of the lines of drift which have the above as their terminal members we grade typically to moderately long-heads, moderately broad-heads, and finally to definitely broad-heads. Among most of the latter the profile is strongly marked, but there are some cases of rather flat features, notably on the Mexican plateau. From time to time suggestions have been made as to migrations, or at least culture influences reaching America across the Pacific and possibly affecting the physical types and the civilisation of Mexico and Peru, for example. This cannot be discussed here, but the reader interested may find much in any library catalogue under the name of Professor Elliot Smith and some very different ideas on the subject under the name of Monsieur Rivet. Both groups of ideas have met severe criticism.

Many of the peoples of the Canadian forest had moderately long heads, and the tendency was towards greater breadth in the north-west. The skin is less yellow than in Asia, and the hair may be slightly wavy, and is usually less coarse than that of the Chinese, the profile is often strongly marked, and the eyelid fold is not often found in the adult. On the whole, the moderate long-heads and broad-heads of the north-west of America seem more akin to peoples of Siberia than to those of China, though the latter do present analogies. Many natives of the plains and the western plateaux have very short, broad heads, but towards the south, in U.S.A., the longer-headed element is more prominent. As one would expect, in such a focus of civilisation as the Mexican region was until Europeans intervened, there is much mixture of type, and one finds the extremely long, narrow, high head on the one hand, and the broad-headed, flat-faced type on the other, as well as many intermediate types. So-called White Indians of Panama, discussed a few years ago by some papers, are merely albinos who have intermarried to a large extent. The majority of the indigenous peoples of South America are broad-headed, some very much so. Most of them are short, but a few on the Matto Grosso and in Patagonia, broad-heads in both cases, are very tall indeed. The original native population of the West Indies spread thither, it seems, from South America. A second wave, called Carib, was spreading when Europeans arrived. The extermination of these native peoples in the West Indies by Europeans was rapid, and, as is well known, negroes from Africa were brought in as slaves; a few mixtures between them and the original natives have occurred, and there are a few natives surviving in St. Vincent and Dominica. In French Canada the indigenous people have contributed a fair amount to the present population, but it is generally thought that this contribution in Anglo-Saxon or rather Anglo-Celtic America has been relatively small. In Spanish America generally the survival of native blood is very large, especially in Mexico and Bolivia. In Portuguese America, negroes have been introduced, as in Guiana and the West Indies and U.S.A., and the West Indies and Guiana now also have Tamils from South India. The Argentine Republic has Italian, South Brazil Italian and German, and Chile some German and Scottish elements. As cross-breeds of all kinds are abundant, America, especially South America, contains some of the most extraordinarily mixed types of the world.

American populations differ strikingly from those of many regions of the old world in that both the European incomers of the last few centuries and the so-called indigenous peoples they found there are, anthropologically speaking, fairly recent immigrants. The native civilisations of America, apart from that of the Eskimo, have all been built on a foundation which included the art of stone-grinding, and some pottery-making and weaving, at least. It is thus legitimate to suppose that these, at any rate, and probably a good deal else, are imported from Asia; and, if so, it is not likely that the arrivals took place very long before 3,000 B.C. Arrivals at that time may well have brought a number of other cultural features, which have spread more or less, and may have been subsequently forgotten in places.

It is thus not necessary to assume that all the cultural features of indigenous tribes in America are the result of local evolution; we do not know much about the equipment and momentum some migrants from Asia may have brought. We do know that in America they found no large animal save the llama that could be tamed, and so social development was very limited, except in Mexico and Peru, where the native civilisation was the curious one so dramatically described by Prescott in his histories of the conquests of the two countries.

Bates, in his famous *Naturalist on the Amazons,* draws attention to the fact that the physical characters of the Amazonian native make him ill-adapted to the trying moist heat of that region. For that climate he should have all his body adapted to the dispersal of heat, but he has, on the contrary, a tendency to limit the dispersal of heat, as have the peoples of East and North-East Asia for the most part, and he is descended from peoples of that part of the world.

The subject of the fates of the various groups of immigrants into America during the past four centuries is of the greatest importance for the future of the races of mankind, but it involves a review of factors so diverse from those affecting the original development of human races that it is not included here. One need but say that Boas' statistics, which seemed to show rapid modification of type towards an American standard on the part of descendants of immigrants into the U.S.A., have now been shown to have undergone treatment that is unsound in the drawing of inferences from averages, and have been set aside by the work of Hrdlička on Old Americans (The Old Americans). The U.S.A. especially is the melting-pot of types in which the black-skinned descendant of the slaves is hardly maintaining himself, while Europeans of all sorts are spread far and wide, with very diverse distributions related to their special racial propensities and social traditions. The result of the complex intermixture is beyond anyone's power to foresee.

CHAPTER VII

EUROPE AND THE MEDITERRANEAN REGION

THE early hunters and artists who peopled Europe as the last major phase of the Ice Age was passing away seem to have occupied mainly a number of sites around the West Mediterranean and in South-West France and the zone of the loess in Central Europe. Along that loess zone of the Danube and Moravia there seem to have moved westwards, during a dry period, hunters of horse-herds with very high skill in the working of flint. Apparently a temporary return of cold or some other change led them to retreat again. When the ice sheets finally dwindled to their present size, or a still smaller one in all probability, the people of Europe were faced with a crisis. The herds of large animals no longer had great grassy plains over which to wander, for the westerly winds were no longer shouldered out by the cold air over the ice sheet but swept in along the European plain, bringing rain that allowed the growth of forests first of pine, then of oak, and other trees. The hunters now found themselves hemmed in by the forest, and they failed to master it; instead, they retreated to the seashore and some river sites, or sites on the loess which were not forest-blocked. On these sites they lived henceforth, largely by collecting, though doubtless still hunting to some extent. The descendants of these early peoples survive scattered through Western Europe from Italy to Norway, as well as near the zones of loess in Eastern Central Europe. They were originally an extension of a North African and Arabian population, and there also one finds the very long, high, narrow heads so characteristic of many remote spots in Europe. We must also remember the hunters of horse-herds, who seem to have retreated to the Russo-Asiatic steppes, and there to have become predominantly herdsmen, as distinguished from the dwellers in North Africa and Arabia, who massed along the Mesopotamian rivers and the Nile as cultivators, with herders along their flanks. Apparently the Russo-Asiatic steppe contributed the horse, later on, to the societies of herdsmen of Arabia and North Africa, and the advent of the horse as a companion of man made for an immense enlargement of opportunities. Among the cultivators of the Nile and Euphrates one finds the very long, narrow, high heads, but the general population is of a more moderately long-headed type, usually brown or red-brown skinned, and called by Elliot Smith the Brown Race. In Arabia and its borders there is often a stronger development of profile than in Africa, a development which, it has already been suggested, is highly characteristic of the western half of Asia. The strong, narrow nose and fine features are very noticeable, and stature among the men runs higher than in North Africa. In the latter region the nose varies, but is often rather broad and short, though not so much so as in Africa south of the Sahara. In the hills of Algeria, as already stated, are people who are almost fair in colouring, but along the Mediterranean coasts, especially in the poor quarters of towns, there are many people with long, narrow, high heads, rather short, broad noses and projecting mouths, recalling in several features the characters found in two ancient skeletons (of the Aurignacian period) unearthed in the lower layers of a cave at Grimaldi on the French Riviera. The same old type seems fairly well represented in Mediterranean towns on the European side, and the type with similar head but rather strong brows and less prominent mouth is important in remote districts of North

Portugal, Sardinia, etc., as well as in the Dordogne area in France. The general type around the Western Mediterranean is, however, one with a moderately long head and an oval face, without prominent brows or cheek-bones, obviously related to the general population of North Africa and Arabia, but with a skin that ranges from white to light olive-brown. It may be partly a development locally from the ancient types, just as the North African and Arab types may be also local evolutions. The general type in the West Mediterranean has had given to it the name of the Mediterranean Race. It should be realised that this is a rough general name to cover a number of stocks, some still true to ancient characters, and some more modified, mostly stocks related to North Africa as well as to South-West Europe, but some connected with movements along the loess zone of Central Europe in the Old Stone Age. The various stocks included under this general denomination obviously spread farther northwards along the west in early times, and they are a well-known feature in West France, Cornwall, Devon, Wales, and parts of Ireland, at least. One stock among them that is not yet very clearly matched by any ancient skeletons is usually very tall and bony, with a very narrow, high head, but a long, thin, straight-sided face, a prominent nose and chin, and dark colouring. There seem to be nests of it in West Scotland, in Ireland, on the Denbighshire Moors, on Exmoor, probably in Brittany, though measurements are lacking, and in Castile in Spain. It is fairly obviously related to the types painted by El Greco, for example, in a scene of the Passion that the painter crowded with heads.

Apart from this tall variety, the stocks included under the name of the Mediterranean race are usually rather short and slim of build and rather darker than peoples of other European types, with one exception to be mentioned later.

It may be stated broadly that Europe exhibits two civilisations which have influenced one another in many ways. One is the Mediterranean civilisation based upon the trading city of the third millennium B.C., with all sorts of later developments and importations, but with the city as the ideal unit, so that nationalism has been of very late growth in Italy, for example. It is not that the urban culture is the special work of the Mediterranean race type, though that type has taken kindly to city life; a great culture has nearly always been the result of the work of several types side by side. But the Mediterranean has given Europe the idea of the city of a type rather different, so far as one can judge, from the cities of Egypt, Mesopotamia, and India.

The other civilisation is especially associated with Europe north and north-east of the Mediterranean, and primarily with ancient Anatolia, Thrace, Danubian Lands, Galicia and Silesia, Moravia and Bohemia, the Saxon lowland north of Bohemia, the Pfalz and the Neckar, and other parts of Germany, Belgium, and the Paris Basin. The association is with areas of loess, the fine-grained porous soil already mentioned, which is fertile and is not inclined to grow thick forest. This may be spoken of as fundamentally a peasant culture, with the agricultural village as its unit, and it may be said not to have become a full civilisation—that is, a social organism, including cities—until the urban idea reached it from Mediterranean lands. The origins of peasant culture in the parts of Europe mentioned are really a local instance of the vast spread of agriculture and all that arises from it in the third millennium, B.C. The Mediterranean notion of the city took exceptionally long to penetrate to Northern Europe, where it was weak until what we call the Middle Ages, and practically non-existent before Roman times; this was due in part, no doubt, to the vigour of barbarians of organising talent on the northern and north-eastern fringes of the old peasant zone above explained, but it was also due in part to difficulties in the spread of agriculture, difficulties connected with exhaustion of the soil. The peasants had a long and stubborn fight to conquer this environment, and also, no doubt, to adapt grain crops of Syrio-Mesopotamian origin to the European climate.

The people of this peasant culture are in the main broad-headed, though near the loess here and there, especially in some remote spots, there may be remnants of the ancient long, narrow, high-headed people so often mentioned. These broad-headed people are known as the Alpine Race, though this label, like all others, is open to question. They seem to have penetrated into the forested alpine valleys, and to have cleared spaces there for agriculture, and the breadth of head is sometimes found exaggerated apparently by inbreeding in some alpine fastnesses in the Tyrol. A head-form, not unlike that of the typical mid-European, is found among the people of the Hindu Kush region, and it is suggested as a working hypothesis that both represent drifts from the Anatolian area (*sens. lat.*) long ago. The archæological evidence of the spread of the peasantry across mid-Europe from the south-east has become increasingly clear of late. It seems that the drifts originally included a number of moderate long-heads, but the broad-head has in the end become the general type. In Anatolia and in the Illyrian Alps a further modification of head-form has supervened, and we get the very high, short head with an almost plane surface up the back right to the vertex. These people have an enormously developed profile in many cases, and may also have a tall stature. The rival names of Anatolian and Dinaric types have been used for this stock; the former is probably the better, and many "Dinaric" individuals really grade between the Anatolian and the "Alpine." Armenia, as a mountain fastness, retains many broad-heads without the special Anatolian developments. As in the case of the Mediterranean race and the Mediterranean city, it must be said here again that the rural culture of mid-Europe must not be ascribed exclusively to one race type. We can but say that the Alpine race takes kindly to traditional village life and to industries that have grown out of it, especially such industries as have developed skill in minutiæ. The predominance of the areas of Alpine race in the early phases of commercial development of electrical machinery is a significant modern example of the special aptitudes concerned.

The peasants of mid-Europe had a long fight, not only with exhaustion of the soil, but also with the forest of oak and beech, which occupied so much of their region after the passing away of the Ice Age. Some earlier areas of settlement have kept what is obviously a very ancient fashion of building villages, with houses huddled in picturesquely irregular fashion (the *Haufendorf* of many German students), but penetration into forests, especially on the north and north-east, gave rather more regular villages in clearings, often either round or elongated, by the roadside. Many of the latter seem to date from pre-medieval times, and are in areas which either were (the Oder Basin) or still are (the Vistula Basin) of Slavonic speech in the main. Penetration farther east had to round the immense Pripet Marshes, and the southern way, via what became Kiev, naturally played a greater part than the northern way, via what is now Vilna and the Beresina, especially as swamps begin again on a large scale on the north side of this latter way. There is also a further difference in that east of the Pripet swamps; the spring and summer rain is not sufficient to keep the beech healthy. Great Russia and the neighbouring areas are thus fundamentally a wedge of oak forest, with its base on a line from about the ancient Novgorod (not Nijni Novgorod) to south of Kiev, and its apex towards the southern end of the Urals. Into this forest the peasant culture and the Alpine type have penetrated bit by bit, meeting other types that will be discussed shortly. Kiev at the main entry from the south-west is a city with a tradition of sanctity, both because, on account of its position, it is a culture-entry, and because it also served as an entry into Great Russia for the religious and urban ideas emanating from Constantinople; there are probably prehistoric factors in the case as well. This reference to Kiev may help to interpret the fact that in South-East Galicia and the Kiev area there occur not only ordinary Alpine types, but also tall broad-heads that have some connection with Anatolian or Illyrian types, or both. There are also, especially it would seem towards the Carpathians, survivors of ancient long-heads, who are usually described as of Mediterranean race, though this rather stretches the use of that term.

Apart from the Illyrian and South-West Russian (or more properly Ruthenian) broad-heads of Europe, and the Anatolian broad-heads of Asia, who are typically tall, the broad-heads of Europe, when of pure stock, are for the most part rather short and thick set. Their colouring is neither very dark nor really fair, their skin may be a rather thick white or may have high colouring over the cheek-bones; alternative developments likely to occur in regions of rather severe winter cold without much softening influence of moist intervals. The broad-headed population of mid-Europe seems to have spread and to be spreading, in places, beyond its original zone, as though broad-headedness were, in some cases at least, dominant over long-headedness in the offspring of mixed heritage. In this way it would seem that broad-headedness has come to be associated, especially on the northern flank of the original peasant zone, with characters derived from other stocks, and some of the types thus arising will be mentioned a little later. Something of the same kind has occurred in North Italy, where Alpine broad-headedness is often combined with what may provisionally be thought to be the blondness of Lombardic conquerors of post-Roman times, who, however, may well be only a recent member of a long series of invasions.

Another spread of broad-heads must be mentioned. Italian workers have noted a belt of broad-heads across South Italy, from south of Bari across to Salerno. Broad-heads have been noted in Gerba Island off Tunis, and in the Maltese Islands, especially Gozo. They are characteristic of various spots on the south and the south-west coast of Spain, and again on the north coast of Spain, especially near Luarca, and they are a very well-marked element of the population in a zone across Brittany from the Carnac region to the vicinity of Tréguier, though less marked in the interior than towards the coasts. They form rather distinctive patches on the coasts of West Cornwall and Wales, Ireland, the Hebrides, the Shetlands, and Faroes, as quite small groups here and there, and it has been said that there are similar groups in Iceland. Whether the dark broad-heads of Dutch Zeeland and South-West Norway belong to the series or not needs to be worked out. These coastal broad-heads are often, though not always, very tall, and usually have very dark hair and strong noses. On the whole, they suggest something between the Anatolian and the Alpine; their broad, squarish faces belong perhaps rather to the latter, their frequent tall stature and prominent noses to the former, but they have not the former's distinctive sharp slope down from the vertex to the back of the neck. Some in the north may be drifts of Breton or other fisher-folk, and those of Dutch Zeeland and South-West Norway have been, doubtfully, interpreted as spreads of mid-European types.

Those who too hastily generalise from statistics of head-index have said the same of the people of the Breton coasts above mentioned, though in almost every other respect they are very different. It seems wiser to seek archæological correlations, and these make it evident that coastwise movements affecting the regions from Crete and Malta round to the British Isles were fairly numerous in the early age of metal, and overlap contemporaneous coastwise movements between the South-West Baltic and Brittany, via the Irish Sea. The earlier phases of these movements are associated with the building of megaliths or great stone monuments, the later ones with certain spreads of fashion in bronze swords and other objects. It is probable that when more is known of these old lines of communication and trade the distribution of the coastal dark broad-heads will be better understood. In the meantime it may not be amiss to point out that both archæological data and the anthropological observations suggest that there is a considerable basis of fact for the legendary histories of Britain and Ireland, however much they may have been embroidered for various purposes by medieval compilers after, apparently, their preservation by oral tradition. It is typical of many of the little groups of this type named that they are interested in long voyages, whether for fishing or for trade.

The ancient graves of the end of the Stone Age and the early Metal Age in the steppe of South Russia reveal a tall type with either a very long, narrow, high head or a moderately long head, and in any case a rather well-marked profile; they may be interpreted for the present as modified survivors of those hunters of the later part of the Old Stone Age who had these head characters, though not the same facial development in many cases.

Archæology gives very fair ground for the view that these people imitated in stone the battle-axe of metal that had long been known in Mesopotamia. Men with these stone battle-axes and beaker pottery appeared in the West Baltic lands, especially in Jutland and Zeeland, apparently in the latter part of the third millennium B.C. They apparently met and influenced, and were in turn influenced by a civilisation building burial monuments of great stones, the affinities of which seem to be with those of the British Isles and Brittany, though links via Pomerania across East Central Europe are another possibility. It seems as though spreads from South Russia and along Atlantic shores had reached the Baltic and had acquired cultural autonomy there, in a land apparently hitherto occupied by survivors of the collectors and impoverished hunters who lingered on from the late phases of the Old Stone Age. One set of the people who brought and built up these cultures seem to be a large element of the Nordic Race, doubtless incorporating in itself some of the older elements just mentioned. Whatever their original characters on the Russian steppe, they have kept their tall stature and their well-developed profile; some are still very narrow-headed, but many should be called only moderately long-headed. We do not know their original colouring but suspect it to have been fairly dark; at some stage, whether in South Russia or in the Baltic, the increase of pigmentation usually occurring in childhood has in many cases dropped out of the scheme of development and blond hair and blue eyes are very common. Growth is apparently very long continued, and muscularity is highly developed. This type from time to time has apparently spread a military or organising influence southwards, and it seems possible to interpret various types of the southern side of the European plain (Poland, North Germany, etc.) of past and present as the result of intermixture between Nordic and Alpine stocks. From the dawn of the Metal Age we know of skeletons associated in several areas with beaker pottery of good quality; these reveal in England a tall people with broad, round heads and strong brows, and noses and faces variable, sometimes longer, sometimes more rounded. We know nothing, as yet, about the types from the beaker-yielding graves of Denmark, and can only suspect Nordic elements along with the type now described. From the survivors of this last type among present populations in Germany and the North Sea Lands we may judge that they often shared the blondness as well as the stature of the Nordic race, but the head breadth of the Alpine race, combined, however, with an ancient heritage in the shape of strong brows, and with a very marked general growth. Several other broad-headed types, usually tall and blond, but without the strong brow-ridges, may be distinguished in Germany, and they seem to represent other mixtures of Nordic and Alpine. Some in North-West Russia and North Poland are short, and it may be added that some influence of the Nordic or the old steppe type is widespread in Russia, perhaps especially among the Cossacks.

In this short sketch it was not possible to describe the racial elements in the countries of Europe, but it is hoped that the thoughts suggested may help the reader to interpret the admirable review of European data in Ripley's *Races of Europe,* published a generation ago. Nevertheless, both because this little book is published in England, and because the British Isles present rather a special problem, it is advisable to finish with a very short statement concerning Great Britain and Ireland. The first essential is to realise that they were anciently on the very fringe of the world, and that their population, especially in the West of Great Britain and in Ireland, includes a considerable survival of ancient types relatively unmodified, as has been stated above. The islands were separated from the Continent definitively in the sinkings after the passing away of the Ice Age, and by that time had probably received only the very long-headed and some moderately long-headed types, probably neither Mediterranean nor Nordic in colouring and features, but more or less between the two. In the early ages of metal when, some believe, the British Long Barrows were built, there came representatives of the Baltic long-heads, and at some such period or before there would seem to have been a drift up from the Western Mediterranean via West France. During the development of communications in the Early Age of Metal, there came the dark broad-heads, already discussed, and at a very early stage of the knowledge of metal, if not just before it arrived, there migrated to East Britain broad-heads, as already mentioned, who made beaker pottery, and with them, especially in Aberdeenshire, there were other broad-heads of smaller build without the prominent brows. The above types can all be traced in varying proportions in different parts of the modern population. An invasion of bronze swordsmen later in the Bronze Age must have had much influence, and some would ascribe to it the spread of the Gælic Celtic languages, but the question is far from being decided, and we know very little about the racial types of the swordsmen; Scotland was much affected by their movements, and it is quite possible that their goal was Ireland. A culture-spread, probably accompanying immigrations, occurred later on, in the last few centuries B.C., and is thought to have brought Brythonic Celtic speech to our islands. In later periods our islands have received "Roman," Anglo-Saxon, Danish, Norman, and Flemish elements, the former of which impressed their speech on a large proportion of the earlier inhabitants; it would seem that these post-Roman invaders were largely Nordic in type.

There are, therefore, both Mediterranean and Nordic elements in Britain as well as various types of broad-heads, but the general foundation of the population is a long-headed type that is neither fully Nordic nor fully Mediterranean. It has dark hair, and often grey eyes, and a general condition intermediate between the two. The suggestion has been made and is repeated that this type probably results less from mixtures of the two types than from survivals of strains which have not evolved fully towards either.

The racial composition of a population changes with changes of politics and economics. The commercial imperialism of Britain in the nineteenth century drew off many Nordic elements to pioneering efforts in lands some of which are climatically rather poorly adapted to the type's special needs. On the other hand, there has been a call for a great increase of the fundamental elements of the population, which seem specially able to withstand the difficulties of industrial towns. The "Beaker" element survives here and there, but would not now be selected as typical for a farmer as it appears to have been when John Bull was first sketched. Indeed, it would seem that the broad-headed elements in the population of England at least have diminished, though we have details of too few skulls of the medieval period to say much.

In Germany and Denmark it would seem that economic developments have given increased opportunities especially to more or less Alpine types, and other changes are doubtless working themselves out.

The fate of European types which migrate to distant lands is an interesting subject that is being opened up by Hrdlička, but the matter is at too early a stage of inquiry to be the subject of general remarks here. It seems likely that some regions preserve and others exert modifying influences on European immigrants, but the claims made in the name of Boas for rapid modification of types immigrating into America may be discounted.

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SPEECH

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SPEECH

CHAPTER I

THE ORIGIN OF SPEECH

Noises play a large part in the lives of most animals, and particularly the noises they make themselves by their own bodily movements and their breath and similar noises made by their fellows. But the phonetic animal *par excellence* is man. All men are born with an infinite capacity for making noises and using them. Livingstone notes, in his *Last Journals,* that among a certain African tribe "Clapping the hands in various ways is the polite way of saying 'Allow me,' 'I beg pardon,' 'Permit me to pass,' 'Thanks'; it is resorted to in respectful introduction and leave-taking, and also is equivalent to 'Hear, hear.' When inferiors are called they respond by two brisk claps of the hands, meaning 'I am coming.'" But it is more convenient generally to make a variety of noises by using the breath and the organs of speech.

The question of the ultimate origin of human speech is a very common riddle. There have been many answers, and most of them, as to most riddles of the kind, either guesswork or of a theological or mystical character. The great French linguist, Meillet, states the accepted view that no idiom known to us gives us any impression of language in a primitive state. There are certain tribes in India who barely know the use of metals or pottery, and yet they speak rich, ingenious languages abundant in symbolic resource. And yet, in a sense, all spoken languages are primitive. Some would even say that language at its best is a clumsy and primitive instrument.

Theories of the origin of speech are therefore speculative. One theory is that primitive words were imitative words of the cuckoo type—*quack-quack, gee-gee, bow-wow.* In addition to the *bow-bow* theory, there are four others similarly described by reduplicative nicknames—the *pooh pooh,* the *ding-dong,* the *yo-he-ho* theories, and a recent one we may call the *ta-ta* theory. The *pooh pooh* theory suggested that words were developed from the natural exclamations evoked by events, and from instinctive cries of pain or pleasure. Speech was largely interjectional and started with noises of the *oo-er!* type, or such words as *tut-tut! ssh! phew!* and vowels like *ah! ee! oh!* Max Muller's theory was nicknamed *ding-dong* from the emphasis it placed on the ringing out of some sound from the individual, natural to the event; in other words, that there was a mysterious harmony between sound and sense and that the first speech sounds were inherently symbolical, the fluent liquids, the hissing sibilants, the murmuring *m*'s. Men *ding-donged* phonetically to their environment. Similar ideas seem to lie behind the word onomatopœia, as used by the literary critics.

The *yo-he-ho* theory scorns primitive onomatopœia and echoism, and suggests that strong or difficult muscular effort, and particularly rhythmical efforts, are usually accompanied by the intermittent valvular action of the glottis, tongue, lips, or soft palate—that is, by alternately holding the breath and then letting it escape, sometimes with glottal vibration or voice. This theory also emphasises the importance of noises, eventually words, accompanying group activities such as mating, feeding, fighting, flight, and festal occasions. Here we get the *heave, haul, hack,* and *dig, yum yum, yo-he-ho,* and *ta-ra-ra-boom-de-ay* words.

Negus has suggested that to provide a firm base for the most efficient pull of such arm muscles as take origin from the thoracic walls, it is necessary that the chest should be rigid; and to do this we must hold the breath temporarily by means of the cords of the larynx. In the singing of deep sea shanties, the crew sing the chorus which they conclude with "heave!" The thorax is then partially empty, and the immediate closure of the glottis fixes the thorax. The actual hoist which follows the word "heave," is carried out with the breath held. The rhythmic unison is also excellent timing. I have observed similar behaviour when a party of Africans were loading steel rails on to a truck.

Recently there has been renewed speculation on speech and gesture. Which came first? Where does one end and the other begin? According to the *ta-ta* theory of Sir Richard Paget, the tongue makes the same gesture while saying *ta-ta* or *hither* as would be made by the hand with similar intention. But you need not wag your hand; your friend hears you wag your tongue to the same effect. According to this theory human speech began by the performance of simple pantomimic gestures of the tongue, lips, and so on, comparable to the natural gestures (of hands, etc.) still made by deaf-mutes, and that these gestures were made audible by breathing or grunting. Bekhterev thinks that gestures do not occur in animals, except perhaps in a rudimentary form. There is no ground for supposing social gesture preceded vocal utterance. It probably developed with it and after it to reinforce vocabulary and supplement the intonation of the voice. Voice developed in the trees, gesture on the ground.

The speculations of Charles Callet in his *Le Mystère du langage* (1929), professing to deal with primitive sounds and their evolution, are almost equally unacceptable. He believes there were three natural instinctive cries *meuglement* (mooing, bellowing, or lowing), *sifflement* or *feulement* (hissing), and *grognements* (growling). The two latter were always accompanied by the grimace of rictus, and he attaches great importance to them. He collects words from civilised and primitive languages providing suitable examples of *grognement* and of *la langue du sifflement* much more menacing and richest in derivatives. *Si, shi, ffi,* accompanied by rictus and the showing of fierce teeth, comes to be associated with teeth, biting, hunger, thirst; with animals having sharp teeth or horns, and with everything which is piercing or pointed, *de forme élancée,* such as spikes, grass, trees, and rocks. *S* being associated with teeth, biting, hissing, and spitting, comes to mean saliva, water, sea, and so on.

Callet's speculations have, however, something in common with more scientific theories, such as that advocated by Wundt. These theories are usually based on the principle that every stimulus tends to induce some movement—such as pose, gesture, facial expression. Some stimuli evoke cries as well, usually indicative of emotional attitude. These "animal" theories, beginning with the instinctive cry, emphasise the importance of the calls of sex in mating, breeding, and the noises made in groups when eating, when hungry, in fighting and for flight, in fear, terror and rage, in pleasure and pain. Then, later, sounds are made to the accompaniment of work or the use of tools and in controlling domesticated animals. Rhythmic beating and varying tones would accompany communal ecstasies at festal meetings. The Swedish philologist, Sperber, developed interesting theories of the influence of the sex instinct on speech. The philological study of the words of agriculture, of the wild and barren and the tilled and fertile, of labour and pain, ease and pleasure, is an interesting pastime. The question is what was the process by which the articulate sounds we now make were evolved to become the principal functions of the usual contexts of situation in daily life, and so the means of control of behaviour and the acquirement of experience.

To begin with, we must remember that "the development of those structures we call vocal cords is no indication of the amount or kind of noise made by an animal." The reason suggested for the development of a valvular larynx is "the habit of using the fore limbs independently for prehension, suspension, hugging, and so on."* The use of words and the use of tools must have developed hand in hand, and both are social products. Though it is interesting to remember that Kohler found little active co-operation among his chimpanzees and no phonetic ability.

It is clear that the study of the verbalisation of experience in the growth of the child, though of great scientific value, will not provide the key to the development of speech in the history of the race. The quest of origins will continue, but it is largely a futile pastime. Whitney warned us long ago that most of what is said upon such subjects is "mere windy talk, the assertion of subjective views which commend themselves to no mind save the one that produces them." In 1866, when *La Société de linguistique* was founded in Paris, section 2 of the Statutes laid down "the Society shall not accept any communication concerning the origin of language or the creation of a universal language."

The most valuable and most interesting recent work on the evolution of speech is to be found in Mr. Negus' book on the *Mechanism of the Larynx*. "There is no doubt in my mind," he says (p. 482), "that many of the steps by which man evolved can be traced accurately from the evidence of the larynx." "In the larynx," he continues, "an organ has been evolved particularly by arboreal animals to subserve the functions of locomotion, prehension, olfaction, and deglutition, and that by the various modifications brought in an instrument has been provided capable of use for sound production in a highly efficient form." For moving about trees and similar efforts a valvular larynx was, as we have seen, of great value, and voice and vision all important. The degeneracy of the sense of smell liberated the soft palate from contact with the epiglottis, and through the gap it became easy for laryngeal sounds to escape.

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* Negus, *The Mechanism of the Larynx*.

Ability to extract the fullest advantage from such properties of sound as propagation by refraction from heights—*e.g.*, the tops of trees and rocks—even in high winds, and also by diffraction round and over obstacles and through openings, must have been of the greatest value in self-protection in the evolution of the race. Voice leaves the hands and eyes free, travels well, has characteristic quality conveying identity, and can become a characteristic function of a situation. Noises come to be used for concerted action, and then follows the confidence of group power. Perhaps those families in which the young quickly understood and responded to speech had the best chance. So that for the all-important family group, and later for other social groups, the successful use of speech, or purposive use of sound in relation to the sense of hearing, came to have a high survival value. Then came the descent from the trees. Liberated from the tyranny of smell these animals walked upright with their arms free. They opened their eyes and, most important of all, opened their mouths. Their most important actions were purposive noises.

Nothing succeeds like success. Man became at once more social and more linguistic. In time " words," " signs," were made permanent, tangible, portable. And so language comes to function in specialised ways. Besides the word spoken, the word heard, the written word, and the word which is seen, there is the word felt by the blind, signalled by the deaf-mute, the African talking drums, and developments like the Morse code. It is very important to remember when associating what is said with what is written, that it is impossible to represent fully to the eye what is meant for the ear. Still, it is the permanent, portable, tangible written word that has brought knowledge and wisdom—The Word. The key to a good life has been humane letters. And men of "letters," babus, mandarins, and bureaucrats have become rulers.

In the new age we enter, the pen is probably no longer to be the pre-eminent rival of the sword. The "record" is as permanent as a book, and will probably become as compact and portable. The Bible is to be published as the first "sound-book." The radiation of speech in all directions over long distances almost instantaneously is a new social force of incalculable power, and the most important implement of that power to-day is the English language. But we have not really begun to use radiated speech for social purposes. We are a little afraid of the new power, so we only toy with it. The ultimate value of broadcast speech for the human race will not be entertainment, "talks," advertisement, or the despairing S. O. S.

CHAPTER II

THE STUDY OF THE WRITTEN AND SPOKEN WORD

Throughout the ages every family and social group has been interested in the linguistic behaviour of its members and neighbours. Children and their elders have probably always indulged in phonetic amusement and played with words. Speech has always been a means of social education, social adjustment, social control, and yet language, even in its written form, was not really studied for its own sake until the nineteenth century, and we are still far from understanding how it functions.

The ancient Hindu grammarians, and later the Arabs, were not interested in the vernacular spoken around them. Their purpose was to preserve the purity of sacred languages from vulgar mutilation and defilement, and from oblivion; to enable men to pronounce and so "reveal" the divine and eternal Sanskrit, or the language of the Holy Koran. All those who believe in arbitrary linguistic standards and linguistic purity are really of the same school. Their point of view is static, mainly prescriptive or normative.

The discovery or rediscovery of ancient literatures has always had a profound influence on linguistic studies. The Revival of Learning was the result of a "rediscovery" of ancient Greek and the beginning of that classical scholarship which we have called "humane letters." The discovery of Sanskrit by the West was the birth of modern philology. Language was studied for the first time for its own sake by a new method—eclectic, comparative, historical. Later, Darwinism and the idea of evolution confirmed philologists in their historical method and tempted them to biological analogies. Words had histories, words struggled and survived, languages were organisms which lived and evolved or died. Hence the first sentence of Professor Jespersen's book on *Language* (1921) states that "The distinctive feature of the science of language as conceived nowadays is its historical character." He even uses the expression "linguistic biology."

We all know that people may begin to replace former sounds by slightly different sounds, to substitute new words for old ones, to find new uses for words, new rhythms and intonations in new situations. We know many young men and more young women who do not talk the language of their fathers. Philology has given us elaborate histories of such changes in language and has interpreted living languages in the light of their past. Dialects have been brought into relation with literary languages and treated according to the principles and methods of comparative philology. As there are no such things as linguistic unity or stability, but only continual flux and change, historians have been tempted to evaluate linguistic evolution. Some talk of the perfect old languages "breaking down," of phonetic decay, of degeneration, of corrupt forms, and so on. People of this habit of thought may find much in contemporary speech and writing that is going from bad to worse.

In December, 1928, Sir Richard Paget, lecturing on speech at the Royal Institution, stated as a general principle that the natural tendency of languages is to degenerate. He was also doubtful about the value of unvoiced sounds and wished to check growing homophony. Professor Jespersen, on the other hand, believes in progressive evolution. Normally languages change for the better, some more quickly than others. Hence he believes in the comparative valuation of languages, and finds modern English the most advanced language in the history of mankind. It also happens to be the language of the successful English and American peoples, and consequently a world language. Men of learning as well as men of affairs may safely praise it and use it.

In the past the learned élite have neglected and even scorned the vulgar tongue, but it must be remembered that in the good old days the vulgar tongue was a series of local dialects, serving the local social life of all classes except the learned. They were an international community, maintaining traditional European culture in the European language, Latin. And schools and scholars are intensely conservative. It is not a matter for surprise that Shakespeare was no "scholar." In the sixteenth century, only the greatest creative minds felt compelled to write in the vernacular. Rabelais and Montaigne wrote in French, but the latter confessed he wrote his book "to few men and to few years." In 1548 the exceptional Ascham claimed that English could be written "with beauty and eloquence." In 1623 Bacon improved his earlier *Advancement of Learning* into a Latin edition that his book might "live, be a citizen of the world, as English books are not." In the meantime were written the *Faerie Queene* and the plays of Shakespeare.

Turning now to the study of spoken words, we may first note that these are bodily acts which disturb the air and people's ears. To begin with it is obvious that speech sounds as waves and movements in air affecting the ear are explained by physics and acoustics. The practical reproduction and transmission of speech has stimulated research by telephone and radio engineers, and valuable contributions to the science of speech have been made by the staff of the Bell Telephone Laboratories of New York. It is interesting to remember that we owe the telephone largely to a phonetican, Graham Bell, and that his father, Melville Bell, the inventor of Visible Speech, borrowed later by Sweet, was one of the early teachers of phonetics in University College, London.

The mechanism and organs of speaking and hearing concern anatomy and physiology. The work of great brain surgeons like Hughlings Jackson and the late Sir Henry Head, to mention only English names, and the treatment of aphasias and other speech disorders have thrown light on the function of the higher speech centres. Recently Mr. Negus has given us a monumental work on the larynx, to which reference has already been made.

Linguistics, as the composite science of speech may be called, will owe much to anthropology and psychology. Of the older school of anthropology, perhaps Sapir is the best known for his work on language. But the most outstanding anthropological contribution to linguistics in recent years is Malinowski's supplement to Ogden and Richard's *Meaning of Meaning*. This is an exposition of language in its primitive function as a mode of action in a context of situation, rather than as a countersign of thought. It has inspired much that Dewey, de Laguna, and other American psychologists have subsequently written on the psychology of language. And it accords with the point of view of the behaviourist school.

The older conceptions of language as "the expression of thought by means of speech sounds," or "outward manifestations of inward workings of the mind," or "expression for the sake of communication, thought made apprehensible,"* are based on a now somewhat discredited psycho-physical dualism, speech being only an external manifestation of inner psychical processes. The American behaviourist, Watson, on the contrary, says there is no such thing as thinking. There is only "inner speech" or the incipient activity of laryngeal and other speech processes. A healthy conflict of views! Bertrand Russell in his *Outline of Philosophy,* while not necessarily agreeing with Watson, realises how little we really know about speech and language, and advocates a thoroughgoing behaviouristic method in linguistic research. "I think myself," he adds, "that 'meaning' can only be understood if we treat language as a bodily habit."

This study of what people say and what they hear and in what contexts of situation and experience they do these things is properly the province of phonetics. Some would limit phonetics to pronunciation, applying the term semantics to the study of meaning. In any case, phonetic technique is indispensable. By its means we can relate what is heard to what is pronounced or said, and both to situational context, and by means of a scientific notation make satisfactory records of observations. Phonetic transcription is also necessary in recording the results of instrumental investigations of pronunciation. Considered from the psychologist's point of view, an accurate transcription is a record of, or a sort of formula for, a group of sensations. Experimental phonetics during the last fifty years has added greatly to our knowledge of the sounds of speech and of the pronunciation of various languages. Rousselot,

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* Quoted respectively from Sweet's *History of Language,* Tylor's *Primitive Culture,* and Whitney and Hermann Paul.

Scripture, Meyer, Poirot, Panconcelli-Calzia, Jones, and others laid the foundations of this method of investigation which is still being pursued and developed in London, Paris, Hamburg, and Bonn, as well as in Iowa, New York, and other American universities.

Kymographic speech tracings are invaluable in the study of the length and pitch of vowels, of the stops or plosives, and other characteristic elements of speech. Details of articulation are demonstrated by means of palatograms made with the use of an artificial palate and also by X-ray photography. The movement of the lips, the tip of the tongue, and so on, have been investigated by cinematography, which has also been used for extensive researches into singing. Spoken words may also be analysed in detail from a good modern gramophone record, both by ear and more scientifically by magnifying and tracing the undulations of the grooves. Neurologists, psycho-analysts, and alienists are also adding to our knowledge of how speech works or goes wrong. Properly trained observers in nursery schools and all children's institutions could also add a great deal to our knowledge of speech habits in formation.

Social field work can begin at home. The characteristic noises any social group is in the habit of making are its most important social acts. Human relations cannot be completely studied unless the most important conditions of their continuance are understood. Surveys of dialect, *patois*, and occupational jargon made from the social point of view will be of much more practical and scientific value than the antiquarian collecting to which we are accustomed. All this work and similar applications to educational administrative and social problems throughout the Empire should be focussed in an Institute of Linguistic Research.

CHAPTER III

SPEAKING

THE organs of talking, if the phrase be allowed, are at least two normally associated human beings. Speaking, as an individual act, requires the functioning of the brain, and probably of certain localised speech centres, with all their connected processes, and all the organs and processes involved in breathing. In addition, we might include the movements of face, head, arms, hands, and sometimes legs, and general bodily gesture. The larynx, and the pharynx with its two extensions, the nose and mouth passages, are, of course, specially important, but it is well to begin with a broad view of the organs of speech.

The experience of brain surgeons during the war has modified earlier views of the localisation of function in the cortex. Head regarded the cortex in general as the co-ordinating centre. Both Piéron and Head agree that injury of the left cortex in any part of relatively wide areas will disturb the function of speech in right-handed people. It appears probable that the physical basis of speech is part of the central machinery for the control and co-ordination of behaviour. That is why Head and Piéron emphasise the associative and co-ordinating function of speech. Ordinarily, the phonetic habits of our associates are an observable function of the common context of experience. And we know that brain injuries can dislocate the relations between these noises and associated contexts, or disturb the habitual inter-relations of sound sequences themselves, or disintegrate speech conditions to such an extent that there are no longer any real phonetic habits, no normal speech function at all. The acquirement of normal speech, according to Head, is the "verbalisation of experience." Anyone with a dissociated service of words is a pathological case. Verbalism in place of verbalisation is a border-line disorder common enough in Europe, but general among the "educated" class in countries like India, which have adopted an alien culture.

Head names four types of aphasia which follow injuries to various parts of the brain. Verbal aphasia means the loss of the active powers of speech, though passive "thinking" and understanding may be comparatively unimpaired. Nominal aphasia disturbs the active association of the right word with the right object. The patient's "exchange" continues to give him the wrong number until it is repaired and is reconditioned in use. In some of these cases the patient has a service of words which do not constitute speech. In the worst cases speech ceases to be of use in the control of behaviour, the patient being unable to pursue any verbalised purpose. Brain injuries, then, can disturb or destroy phonetic habits, and, as the names given to some of the aphasias indicate, nominal, syntactical, and semantic habits. These results support the view of speech suggested in this book, that it is a bodily habit having a physical basis, and its function the social control and co-ordination of behaviour.

Now let us turn to the organs concerned with the making of the actual noises. Of primary importance are those we use in breathing. We breathe at all sorts of rates, according to what we are doing. The normal rate is about seventeen expirations per minute. In daily life the short sentences we use do not require, on the average, more than about three seconds, and many much less than that. It is the outgoing column of air we use for speech, though occasionally women speak during inspiration, and we sometimes make hissing sounds by a rapid intake of air. We can also make significant noises in the mouth whilst breathing at the same time through the nose. These sounds are called clicks. And, with the possible exception of the voiced clicks, these speech sounds are as independent of the breath stream as the clapping of the hands noticed by Livingstone, in the land where clicks are so common. Clicks are made by applying the tongue as a sort of sucker to the roof of the mouth. When the tongue is pulled away there is a concussion of air into the rarefaction caused by the sucker. In England we make clicks to encourage domestic animals, and there is the bilabial smack sucked against a closure of the mouth passage by the tongue. Try to make the *tut-tut* click while breathing through the nose, and you will realise that it has nothing to do with the breath stream.

Expiration is subject to much variation during speech, on account of articulatory control. The larynx, the back, front, and tip of the tongue, and the lips, can all be used as stops or valves for the temporary interruption or stopping of the breath, or for the partial obstruction of the passage, causing audible friction. The movable soft palate is also a sort of valve, though it cannot be used by itself to hold the breath. It opens and closes the nasal passages to allow of mouth or nose breathing, or both, and combines with speech articulations in the formation of purely oral, purely nasal, and combined nasalised sounds. During speech there is a continuous active control of the outgoing breath stream. This control may be exercised by the muscles we sometimes use in forced expiration, and by the diaphragm and abdominal muscles. This infra-glottal control of pressure may have something to do with stress or " dynamic " accent, the syllabic distribution of which, with accompanying variations of pitch and length, determine what we feel as the rhythms of speech.

The action of the larynx itself on the breath stream is very important. The articulatory tract begins with the glottal lips and ends with the lips of the mouth. And between the two extremities a very large number of " controls " of the breath stream is obviously possible. When the glottis and the mouth are wide open you can hear the friction of the breath as it is forced through the opening. If you hold your breath you close the glottis. The momentary closure of the glottis on the breath during speech is usually called the glottal catch or glottal stop. It is often released as a sort of plosive. It is common in Arabic and German, and also in local forms of English. Sir Harry Lauder uses it professionally instead of *t* in *bottle*, and perhaps even in *water*. Many English people use the glottal stop without plosion, instead of stops like *t* and *k*, in combinations such as *that one, like this, not me, without bread*. The vocal lips or cords, then, may be either apart, as for breath or *h*, or brought together as in the glottal stop, or drawn near together and vibrated by forcing breath past them as in phonation when voice is produced. There are also intermediate positions for intermittent voice or "creaky" voice, and for certain kinds of whisper. In normal speech it is with the expiratory breath that voice is made. A sort of voice can also be made in inspiration, as can be shown by the asinine imitation *hee-haw*.

It will now be clear that all supra-glottal articulations in normal speech can be either stops or partial obstructions of breath or of phonated breath. Such articulatory modifications of the breath-voice stream are consonants. And so we find consonants classified in pairs, breathed and voiced, as *p b, t d, k g*, or the two *th* sounds, and so on. The breathed sounds—such as *p, f, s*—are sometimes called voiceless, or "unsingable" consonants, or "surds." Their voiced fellows, *b, v, z*, are "sonants." There are also partially voiced and partially or completely unvoiced consonants. An unvoiced consonant is not the same as a breathed consonant.

Obviously, then, in describing and classifying a consonant sound you must consider what happens in the larynx when it is pronounced. You must also describe the place of articulation and the manner in which it is produced. In the word *Latin*, for example, the *l, t,* and *n* sounds have all three about the same place of articulation—namely, the tip of the tongue is touching the gums behind the upper teeth. They are all three alveolar consonants, but they are three very different types of noise. The first is a liquid, or lateral; the second is a stop, or plosive; and the final consonant is nasal. The normal *r* sounds of English are also alveolar, and there are the two pairs of sibilant fricatives, *s, z,* and *sh, zh,* articulated in the alveolar region.

From the lips to the uvula, the extremity of the soft palate, you will be able to find many possible places of articulation if you regard the tongue as having three or four parts for such purposes—the tip, the front, the back, and perhaps the middle. The tip can be placed between the teeth and may touch many points, reaching as far back as the beginning of the soft palate. And at each point of that wide range surd and sonant stops are possible, nasals, laterals, fricatives, and over most of it *r* sounds as well. Similarly, by touching the hard palate with the front of the tongue in various places, stops, nasals, laterals, and fricatives can be made. For the soft palate, or velar area, the back of the tongue is used.

In pronouncing the word *children's* you make six—or, if you consider *ch* as two sounds, seven—consonants, each having its characteristic acoustic qualities, and yet from the purely articulatory point of view they are all, broadly speaking, alveolar. It is almost a case of seven at one blow. In the phrase *a halfpennyworth of our security,* with strong emphasis on *our,* you will, on the other hand, use most of the points of articulation between the lips and the glottis. In saying that short phrase you use bilabial, interdental, labio-dental, alveolar, palatal, velar, and glottal consonants.

But it must be remembered that there is not one fixed place of articulation for, let us say, the English *t.* Feel where your *t* is in *eighth* or in the phrase *at the show,* and compare it with the *t* in *tree* or *true.* The first will probably be dental, and the second farther back; between the two are the other *t*'s. In English, then, we have a series or range of *t* sounds. Next take the *k* sounds, the velar stops. In southern English the *k*'s of *cube, Kew, key* are farther forward than those of *Kerr, curd,* or *cord.*

A fuller treatment of the theory of plosive consonants would show that, in addition to this range of variant articulations, the on-glides, and the off-glides or releases, vary according to the neighbouring sounds. The stop phase, considered acoustically, is complete silence for *p, t, k,* and the glottal stop. Silence can therefore be part of a speech " sound," and pause is an important element in speech.

We must next consider the vowels. In normal speech a vowel is a voiced sound in which the vocal stream passes freely through the pharynx and mouth without articulatory interference such as would cause audible friction. A vowel has no articulation. Its quality depends on the vibration of the vocal cords and the shape of the supra-glottal passages. The voice resonates in these passages. The most important modifications of these shapes are made by the tongue, which alters the shape of the " pipes," and the lips, which control the shape of the orifice. Schoolboys often play tunes on these resonators by holding the breath, rounding the lips, and " flicking " the tight cheek with the finger. You can vary the note of the resonators either by keeping the tongue still, say, in the position for *oo,* and altering the size and shape of the lip opening, or you can keep the lips rounded, raise and lower the front of the tongue and then the back of the tongue. Back resonances can be heard by tapping the throat with a pencil and altering tongue and lip positions. Another method, which has been used as a music-hall turn, is to make the resonator " speak " by a clap of the hands sharply and quite close to the mouth. In all these experiments it is necessary to hold the breath. Whistling will illustrate other properties of the human instrument.

We recognise vowels by their quality. Let us begin with an English vowel of obscure quality. You would probably use this "neutral" vowel in *a*bout, *a*gain, *a*way, and th*e* Prince *o*f Wales. Forward from this tongue position is *i*, as in *cease*, and back from it is *u*, as in *coop*, and down from it is the *a* of *calm*. These three English vowels are by no means the furthest humanly possible from the neutral position. Most French and German *i* (ee) and *u* (oo) vowels are tenser and nearer the vowel limit. In the case of *i* (ee) the vowel limit would be reached if any further raising of the front of the tongue towards the hard palate so narrowed the passage that the resulting sound suggested the consonant or semi-vowel *y*, as in *yield*. Vowels, then, are classified according to the part of the tongue which is raised highest in shaping the back and front resonances—*ee* would be a front vowel, *oo* a back vowel, and *er* in *herd* central. Secondly, according to degree of opening, and, thirdly, according to the shape of the orifice, or lip position. In English, back vowels are produced with varying degrees of rounding. In French and other languages, certain front vowels can have rounding too. In Russian, Chinese, Tamil, and Marathi, back vowels can be unrounded. There are also nasalised vowels.

A list of words illustrating the scale of twelve simple vowel qualities in English would then be: (1) *Bead*, (2) *bid*, (3) *bed*, (4) *bad*, (5) *barred*, (6) *cod*, (7) *bawd* or *bored* or *board*, (8) *could*, (9) *booed*, (10) *bud*, (11) *bird*, (12) the first vowel of *again* or *about*. It will be seen that we do not make the fullest use of the scale, there being room for words with initial *b* and final *d* and vowel qualities—Nos. 6, 8, and 12. In English there are also from eight to eleven or twelve diphthongs. In southern educated English eight are necessary and illustrated by the words (13) *bayed*, (14) *bowed* (a tie), (15) *bowed* (acknowledgments), (16) *bide*, (17) *buoyed*, (18) *beard*, (19) *bared*, (20) *board*, *bored*, (21) *moored*, *moors*. Such diphthongs are vowel glides produced by continuous movement of the tongue through certain ranges of vowel qualities. Received standard English, then, rings the changes on a scale of about twenty-one vowel qualities. The whole of this vowel system of interdependent qualities is the " steel frame " of the language.

If a Yorkshire boy drops his " broad " *o* sound in *bud* for some sort of central vowel, he uses something like his neutral vowel in *the,* and so uses similar vowels in both the words *the bud,* whereas in his own dialect and in southern English they would be different. It would be better to show him that his northern words *the bad* are fairly near what "education " requires for *the bud.* But if he adopts Yorkshire *bad* for *bud,* he will have to find a new vowel for *bad,* and very probably his new *bad* will be too much like his old *bed,* and so he will have to alter *bed, bid,* and *bead.* Thus we see how the vowel system is a scale of interdependent qualities. If you remove or try to " alter " one, the whole system is dislocated and ceases to be a scale. The whole phonetic structure of a language is involved when new phonetic habits are attempted or old ones dropped. It will, consequently, be impossible to teach a normalised English pronunciation properly in the schools until all the main dialects have been analysed and described according to the principles and technique of modern phonetics.

We have taken for granted that the reader recognises a " phone " or separable speech sound when he hears or makes one, and that he can analyse a piece of the stream of speech into a sequence of such phones. These phones are sounds of definite organic formation and quality, and in any given sequence of phones the native can generally both feel and hear the difference between those phones which are comparatively short and those which he could call long. A good ear can distinguish half a dozen degrees of length, but in practice it is sufficient to be able to recognise long, half-long, and short. Phonetic kymography measures phone length to within 0·005 of a second.

Take the sentence—

B u t s h e a *d o r e s* h e r
1 2 3 4 5 6 7 8 9 10 11

b l a $\underbrace{\text{c k c}}_{}$ a t B a k e r !
12 13 14 15 16 17 18 19 20 21

Most speakers of southern English will probably feel that the second syllable of *adores* is the longest of the eight or nine syllables—that the 8th phone is the longest. The 6th phone is much shorter. The *k* stop common to the end of *black* and the beginning of *cat* is much longer than phone 20, the *k* of *Baker*. And if the sentence is spoken with a good deal of emphasis on *adores*, the *d*, or the 7th phone, will be a good deal longer than *B*, the 18th phone. It would probably be longer than the "double" *K*, phone 15.

Again, the vowel of *bead* is longer than the vowel of *beat* or *bid*. The *l* of *build* is longer than that of *built*, while the difference between *fleece* and *fleas* (or *flees*) is not only in the final sibilant, but also in the vowel length, or quantity. Of all the peoples of Europe, the Finns make the most significant use of length both in vowels and consonants. For example, *tuli* = fire, but, lengthen the same *u*, and you get *tuuli* = wind. A long *l*, however, gives you *tulli* = duty. Many nouns, having a double or long consonant in the nominative, must shorten that consonant in the genitive, as *pilkku*, *pilkun*, *kettu*, *ketun*. Finnish vowel and consonant length is both semantically and grammatically significant.

In the sentence we used in a preceding paragraph—

But she a*dores* her black cat Baker!
1 2 3 4 5 6 7 8 9

we may count nine pulses, beats, or syllables, and if syllables Nos. 4, 6, 7 are made prominent, the others will be less so. It would be possible in other contexts of situation to stress syllables 1 and 7, or 2 and 5, or 4 and 7, and so on. It would not be possible, however, to stress syllables 3 and 9 under any circumstances whatsoever. Whatever speech energy or speech power may be, we distribute it most unevenly in English. The distribution of this speech power may involve many things, such as infra-glottal breath control, " pitch " changes in the larynx, special voice and vowel quality, and the time factor—length.

The varying distribution of speech power over phones and syllables can be measured in microwatts if the piece of speech be electrically transmitted. These measurements can be regarded as some indication of the varying effort felt by the speaker and any similarly conditioned listener. But in the sentence we have taken a very strong stress on the second syllable of *adores* produces, as we have felt, a long *d,* a strong and sustained effort during the stop. In some languages, such as Finnish, Hungarian, Italian, perhaps Japanese, double consonants, or long " pause efforts," are felt as part of the rhythmic efforts we call stress. The feelings of effort may come from the whole of the respiratory tract, and perhaps even from movements of the head and arms.

Stress is not the only difference between *con*vict (noun) and con*vict* (verb), but it is the main difference. Other examples are *con*vert, con*vert, sub*ject, and sub*ject.* Most Indian languages are spoken with even stress, and Indians find the greatest difficulty in distributing speech power in the English manner. The mutual linguistic difficulties of the English and French are also very largely a matter of rhythm in which the distribution of stress plays a very important part.

If you say *conversation* as an isolated word in the normal way you will probably hear the beginning of the third syllable, *-sa-,* as the highest pitch, and the final *n* lowest, with the first and second syllables on an approximately even pitch somewhere between the other two. Or take the sentence *It's not my fault.*

The highest or the lowest pitch of the sentence melody may be reached in any one of the four words of the sentence, according to the requirements of the situation. If someone says to you, "*Don't show this to anybody,*" with *anybody* on a continuously falling intonation, you've got to keep it to yourself. But if on a certain kind of rising intonation, you might possibly show it to your best friend or the family circle. So that the distribution of pitch over the phones of a sequence is also of great significance.

In Chinese the tones of monosyllables are significant. The monosyllable *chu* can be pronounced on four different tones in Mandarin. If you keep it on an even pitch it will probably mean *pig,* if on a falling tone it may mean *dwell,* but if you vary the rising tone in different ways it may be either *bamboo* or *God.* So that a missionary getting his tones mixed might easily talk of swine when he meant the Divinity! Burmese and many of the languages of West Africa and the Soudan are also "tone" languages. A proper understanding and use of the tonemes of these languages would appear to be a *sine qua non* for all European administrators, anthropologists, and missionaries working among those peoples.

In the sentence "But she a*dores* her black cat Baker" we have already noted twenty-one phones, but only nine syllables. We must therefore show why, in listening to this sequence of twenty-one phones, we only hear nine beats. Uninterrupted voice coming freely through the oral or nasal passages—in other words, *vowels*—are more prominent and have more average speech power than consonants, all of which are "articulated," and many of which are merely articulated breath. In the above sequence most of the vowels are separated from one another by consonant sounds having much less relative speech power. We thus have an alternation of powerful and weaker sounds, of crests or peaks of prominence, and troughs or "valleys" of relatively weak sounds. Between the two vowels of *black* and *cat*, for example, there is the long stop of a double or long *k*, which is perfect silence. No wonder they strike the ear as two beats or syllables.

The word *extraordinary* may be heard as six, four, or even three syllables, according to the style and speed of utterance. A syllable is a "beat" affecting the ear. You can generally count these beats when you hear them—you count the peaks. But it is often quite impossible to say exactly where one syllable begins and another ends. We recognise the mountain ridges and the valley between, but do not attempt to say exactly where the valley ends and the mountain begins. All speech is syllabic, is heard as a sequence of beats or pulses; and the distribution of length, pitch, and stress over the phones and syllables of speech determines the rhythms we feel and hear.

We must, lastly, consider the subject of phones and phonemes. Grouping all the *t* variants as one consonant, or the three or four *k*'s or variant *l*'s as one consonant, there are in southern English twenty-five consonants, including *ch* and *j*, *w*, and *y*. Similarly, grouping all the varieties of *i* in *indivisibility* as one vowel, we use twelve simple vowels and from eight to eleven diphthongs; in all about forty-six groups of sounds.

When we speak of the English *t* we must regard it as a group of *t* phones. A grouped range of variants, or set or series of related phones, is now known as a phoneme. All languages have their characteristic phonemes, and each phoneme its characteristic set of variants. To give an adequate description of a spoken language, it is first of all necessary to know the phonetic resources of typical speakers, to identify all the phones they use, and find out which phonic differences are significant and which are not. How are the phones and phonemes distributed in habitual sequences? The distribution of phonemes and phoneme variants must account for all the speech sounds used by typical speakers in careful and in rapid speech. As a rule, members of small speech groups have similar phoneme habits, though there is a good deal of individuality possible in the number and nature of the variants. Some would limit the province of phonetics to the above field of work. Others are of the opinion that it should give some account of the social use to which the noises are put.

CHAPTER IV

HEARING AND RECOGNITION

Everyone knows that there is something called the pressure of the air, which will support a column of mercury in a tube. A barometer shows gradual changes of pressure indirectly by means of a visible scale. You can see the scale, you cannot see the changes of pressure. You can see letters, you can never see speech. What you do see is the context in which it is heard. With a perfect phonetic alphabet you can represent to the eye the sequence and distribution of speech sounds, the pattern of spoken language, and by training you can condition yourself phonetically to this notation. That is as far as "visible" speech can go. It is, of course, an extremely valuable means of recording, studying, and learning spoken language—the only scientific way.

The ear is a sort of barometer. It is sensitive to sudden and rapid changes of pressure in the surrounding air. From the sensitivity of the ear to these rapid changes we derive our sensations of sound. Our ears translate successive condensations and rarefactions of air into a form suited to stimulate the endings of the auditory nerve. The excitation of the auditory nerve reaches the higher centres of the brain and we hear sounds of definite character. So that the theory of hearing involves the explanation of what happens outside the ear, how these happenings affect the mechanism of the middle ear and the inner ear, and in what way our sensations of sound are related to what happens in the inner ear and auditory nerve.

For the detailed exposition of these matters the reader is referred to easily accessible textbooks.

Briefly, the air vibrations are led by the outer ear passage to the drum and the ossicles of the middle ear, which act as a sort of transformer to communicate vibrations from the air to the denser liquid medium of the inner ear. The amplitude of the vibrations is decreased to about one-sixtieth, and the force or pressure communicated to the inner ear is from thirty to sixty times as great as that exerted by the air on the ear drum. The inner ear is a sort of spiral keyboard receiver on which the vibrations play the "tunes" we hear. There have been many theories put forward to explain the functions of the basilar membrane "keyboard," which is about a quarter of a millimetre wide and 31 millimetres long, and of the organ of Corti with its sensitive nerve terminals connected with the so-called rods of Corti, between 23,000 and 24,000 in number. Evidence is accumulating in support of the so-called resonance, or harp, theory originally proposed by Helmholtz.

It must not be supposed, however, that the resonance of the ear mechanism is like that of a tuning-fork or even of a harp or piano. The inner ear is a very small mechanism and the damping is great—Harvey Fletcher, in a recent work, says "as great, if not greater than that in a telephone receiver. Consequently, the hangover, that is the vibration existing after the stimulating tone has ceased, is so small that it is almost imperceptible. In listening to a continually varying source of sound, the form of the vibration of the basilar membrane is set up and dies down so quickly that it follows changes with no perceptible delay. For this reason, when the ear mechanism is compared to a harp or piano a wrong impression is created."

A complete theory of hearing must also explain the mechanism of nerve conduction upon which the sense of loudness probably depends. Roughly speaking there are three kinds of sound—musical tones, speech, and noises. And a pure tone has two physical properties (some would add volume): it has a certain frequency of vibration, and also a certain intensity of vibration, or pressure. The sensation, or sensory property corresponding to frequency is pitch; to intensity, loudness. The human ear is sensitive to the pitches of pure tones from those of about 20 cycles per second to frequencies of about 20,000 per second. Some people may have acuity of hearing for higher notes than this, and it is said that the notes of organ pipes having a lower frequency than 20 cycles per second have been heard. Theoretically, Fletcher has shown that within this range, in changing the pitch of a pure tone from the highest to the lowest audible pitch, there are approximately 2,000 perceptible gradations under certain conditions.

The notes sounded by most musical instruments (the human voice is a sort of wind instrument) are not pure tones. They contain more than one frequency. The lowest component, the fundamental, usually determines the pitch, though there are generally many component harmonics of frequencies in rising multiples of the fundamental. The frequency of vibration is the mathematical expression of the physical event in the air—the sound waves. The musical scale of pitch is an auditory system of relations. There is, of course, a relation between the two, between the pitches of the notes in the chromatic scale and their frequency levels. The steps of this scale are semitones, though for scientific purposes a smaller logarithmic unit is frequently used. The notes C_3, C_2, C_1, C, c^1, c^2, c^3 correspond to frequencies of 32, 64, 128, 256, 512, 1,024, 2,048; 256 cycles per second representing middle C in the scale of physical pitch. Reproducers of music, such as the gramophone and wireless, must be able to transmit frequencies from 50 to 5,000 cycles, and for faithful reproduction another octave at each end of these limits.

The very short vowel in the first syllable of *potato* rapidly pronounced is often only about 0·03 of a second long. Yet you recognise the sound as having pitch. The ear can recognise the pitch of a note of even less duration than this. The range of intonation of the actual tones of the speaking voice is more extensive than in singing. The range in any given case depends on circumstances and feeling. In certain circumstances an average male voice can range over two octaves, rising to F, though on ordinary occasions it does not often rise above D. When a man drops his voice, at the end of a sentence, for instance, the voice often becomes a sort of growl, the pitch of which it is difficult to recognise. A woman's range is not so extensive. In conversation the average limits would roughly be between G and b^1, though there are female voices reaching the low pitch of D_1 and C_1. It will be readily agreed that range of intonation in speaking is of the greatest "affective" value. Quite often it is the most important function of the whole context of situation. Many exclamations have an almost purely intonational value—such as *ah!* or *oh!* or tones made on the nasal consonants, *M* or *N*. We use a sudden change in the direction of intonation as a means of giving prominence to certain syllables or words. Much of what is called "accent" or "stress" depends on pitch effects. In Africa and Asia millions of men use variations and differences of pitch, not only as emotional acts or gestures, but also to distinguish one context from another where an Englishman would require different speech sounds, different words. One of the most important tone languages is Chinese.

We have seen that the important frequency range for music is from 50 to 5,000 cycles per second. The exhaustive investigations made by Harvey Fletcher and others in the Bell Telephone Laboratories on the frequency range necessary for the faithful transmission of speech, throw a new light on the properties of speech sounds. The frequency region containing the maximum amount of energy is near that for the fundamental pitch ordinarily used in pronouncing the vowels, and this would mostly fall below 5,000 cycles, though there is still energy in some speech sounds as high as 10,000 cycles. Investigating the effect of frequency distortion by means of filters, it was found that the sound *s* was only slightly affected by eliminating frequencies below 1,500 cycles, but its characteristics disappeared when frequencies above 4,000 cycles were not transmitted. By eliminating frequencies above 3,000 the telephone value of *s* is reduced to 40 per cent., *th* to 66 per cent., *z* to 80 per cent. For the voiceless consonants the 1,000 to 3,000 range is important, and *t* appears to have the noticeable characteristic that all sounds below 1,500 cycles do not appear to affect its recognition.

Experimental analysis has also shown the high frequency kinship of the English *th* sounds with *f* and *v* and the sibilant fricatives. *F v* have higher frequencies than the *th* group, particularly *f*. And all true Cockneys will be interested to know that acoustic analysis shows that *f* differs more from *v* than *v* from voiced *th*, and that physically the difference between the two latter is a fine distinction. The vowel *i* as in the word *team* could be recognised correctly using only frequencies below 1,700, or above 1,700. The American short vowels *u*, *o*, and *e*, as in *put*, *ton*, and *ten*, have important characteristics carried by frequencies below 1,000. And *i* (as in *team*) sounds very much like *u* (in *pool*) when frequencies below 1,000 are eliminated, but some difference is still perceptible. It was also found that for the satisfactory transmission of the fricative sounds of women's voices very much higher frequency ranges were required than for men's voices. The elimination of frequencies below 500 cycles produces only a small effect on the recognition of the sounds of speech, but it destroys the naturalness of the voice.

Pitch is related to frequency, and loudness to intensity or pressure. The relationship of loudness to the intensity of the vibrations is, however, not a simple one. Two sounds which produce equal intensities at the ear are not recognised as equally loud. If you start with two sounds judged to be of equal loudness, and then raise their intensity levels by equal amounts, they will no longer sound equally loud. Tones of low pitch can be made to increase in loudness much faster than high ones. It has up to the present been impossible to determine the processes followed when we make a judgment of loudness sufficiently to enable scientists to measure loudness according to a generally applicable system. Telephone engineers have, however, found it desirable to measure the acoustic and electrical power of speech being transmitted. And for these methods of testing speech transmission they have found it convenient to recognise instantaneous, average, mean, syllabic, phonetic, and peak speech powers.

To light an ordinary incandescent electric bulb by speech power would take over a million voices. Measured electrically the power of a very soft whisper is about 0·001 microwatt, and of the loudest voice about 1,000 microwatts. The softest voice short of a whisper has a power of about 0·1 microwatt. In order to measure differences of powers in units of sensation telephone engineers have adopted a logarithmic unit called the decibel (db.). If average speech power is taken as the zero level, that is comparison level, the sensation level of very loud speech would be +20 decibels, of weak speech −20 decibels, and of a soft whisper −40 decibels. The range of average powers used in conversation by 93 per cent. of speakers is found to be about 21 decibels. This method of measuring sensation level, level of intensity, is used by all sciences concerned with hearing. The sensation level of any sound reaching the ear is the number of units it is above the threshold of audition. Half an inch from the ear, normal speech would have a level of about 100 decibels.

These methods of experimental investigation have produced results of interest to students of general linguistics. They have corroborated many of the results obtained by other methods. For instance, the vowels have the most power, and of these the Americans find the vowel they use in "*talk*" the most powerful of all. This vowel would be fairly near our *a* sound in "*father*," so that the open vowels are, other things being equal, more "*sonorous*," more naturally prominent, than closer ones such as the *i* in *team*. Expressed in microwatts the phonetic powers of the vowels range from 680 for *a* to 220 for *i*. According to Harvey Fletcher's results, *r* comes next, then *l*, *ng*, *m*, *n*. He finds the voiceless *sh* and *ch* sounds also of great power. After these he gives the stops and other fricatives, with breathed *th* at the bottom of the list. And also, as we would expect, he finds that syllabic power varies more with the emphasis or stress than with the vowel used. A vowel in what he calls an accented syllable has usually three or four times as much phonetic power as in what we call an unstressed syllable.

For all kinds of speech, it would be possible to have a range of power of from 0·01 to 5,000 microwatts, giving a sensation range of 56 decibels. The range of intensity for any one speaker is not more than 40 decibels. These evidences of varying speech power used, and affecting audibility and transmission, can also be regarded as evidences of variations of energy felt. Alternation of loud and soft sounds gives us the crests and troughs, the peaks and the valleys, which we feel and hear as the beats, pulses or syllables of speech. And the great range above shown helps us to understand a little clearer the infinite variety of speech rhythm possible by varying the distribution of power, pitch, and length over the sounds of speech.

Sounds to which no definite pitch can be given may be described as "noise." The series of vibrations of a noise are irregular. There is no one preponderating pitch, but a jumbled mass of sounds, all of irregular rates of vibration. The range of these irregular frequencies and intensities is so great that transmission is difficult. The gramophone records which have been made of street noises reproduce only a small part of the racket we endure in the busier thoroughfares of our large cities. By means of an instrument called an audiometer it has been found that one of the noisiest places in New York registered 50 decibels. This means that sounds near the normal threshold of hearing would have to be magnified 100,000 times to be heard at this place. The average deafening effect in offices and places of business in New York has been estimated at about 30 decibels. This shifts the threshold of hearing for speech, or in other words is a permanent deafening effect.

All children should be tested for acuity of hearing, and all who aspire to musical and linguistic careers should have suitable special tests. In 1927 about 250,000 American school children were tested, and the results showed that from 8 to 12 per cent. were defective. It is obvious that in certain types of work in civil life, as well as in the Services, good hearing is of the greatest importance. Most telephone authorities require their employees to pass tests of ability to recognise speech sounds as such and also in contexts. The Bell Laboratories have articulation tests and intelligibility tests. For the articulation tests, nonsense syllables and nonsense words are transmitted, the listeners being required to note down the speech sounds they hear by means of a fairly phonetic system of notation.

Professor Daniel Jones, of University College, London, has developed a phonetic method of ear training and ear testing for the recognition of speech sounds when pronounced by others. This work is, of course, only a part of the course, which includes the study of the mechanism and production of speech, the analysis of actual speech and the use of a scientific notation, which at the present moment comprises about 160 symbols, 120 for consonants and 40 for vowels. The symbols thus counted are not to be regarded as exhaustive of all the individual or normal sounds classified. They indicate types, families, and classes of sounds, and are used according to conventions known to those employing the notation scientifically.

In the normal contexts of everyday life, the sounds of speech are a function of social behaviour situations, and we do not merely attend to the details of pronunciation and the sounds of the words to get the meaning. The meaning is largely gathered from the situation either perceptually present or by adjustment to an assumed common background of bodily habits. The sounds direct and control, but as they do not in themselves hold or convey meaning some of them can, by common social consent of course, be omitted, or be replaced by other slightly different sounds. When people have to write down the sounds they hear, without context of any kind, they have to make a special effort of auditory attention, and even then may make many mistakes. Speech sounds which are "defunctionalised" are merely gibberish at first and difficult to recognise.

The mistakes of hearing made by a group of fifty language students taking down suitable nonsense ear training tests would provide illustrations of most of the so-called sound-changes of comparative philology.

There is rarely, if ever, unanimity as to the sounds made by the phonetician conducting the test. Listen to the broadcast announcer. What is his sound corresponding to *c* in "Press Association"? Do you use the same, and what about the similar *c* in the "associated secondaries" of the weather forecast? How many vowels in secondaries? What sound follows the *c* in his pronunciation of that word? What do you hear him say for the "cond" of "second news"? Where does he put the accent or stress in "weather forecast" and "piano music"? When the weather is to be "cloudy with showers in all districts," how many *t*'s do you hear in "districts"? His first sound in "cloudy" is probably a sort of *ķ* sound. Is yours? Do you ever hear a *t* substituted for this sound—as *tloudy*? Have you heard people use very similar vowels in both the words "the club"? Do you hear a *t* sound in words like "sense," "French," "lunch"?

These are only a few very obvious examples of observations you may make, if you have not already done so. It is well to cultivate a scientific listening attitude, with an emancipated ear free from the bondage of spelling and the prejudices of snobbery and purism.

CHAPTER V

THE PROBLEM OF MEANING

If we regard language as "expressive" or "communicative" we imply that it is an instrument of inner mental states. And as we know so little of inner mental states, even by the most careful introspection, the language problem becomes more mysterious the more we try to explain it by referring it to inner mental happenings that are not observable. By regarding words as acts, events, habits, we limit our enquiry to what is objective and observable in the group life of our fellows.

A piece of speech, a normal complete act of speech, is a pattern of group behaviour in which two or more persons participate by means of common verbalisations of the common situational context, and of the experiential contexts of the participants. It is a pattern without clearly defined boundaries. And consequently it is difficult to isolate and describe individual speech behaviour, if there could be such a thing. Speech made an end of the individual. No normal man can escape phonetic bondage. His bodily speech habits are established links with his fellows, and he finds it impossible to draw a boundary round his individuality. A speaking man is a corporate man, associated through the present with man of all time. Sweet's principal commandment, " Remember that language exists only in the individual," is only true of the physical basis of our phonetic habits in the central nervous system. Speech as noise is only operative socially. One of the first to envisage the problem from the social point of view in the present century was Professor Bally, of Geneva, who wrote in 1913: " The problem of linguistics of the future will be the experimental study of the social functioning of speech."

In common conversation about people and things present to the senses, the most important modifiers and qualifiers of the speech sounds made and heard are not words at all, but the perceived context of situation. The " meaning " of the sentence-word almost always depends on the perceived situation. A stranger unfamiliar with the habits and behaviour patterns of a little child cannot understand the noises. Parents always do, if they can see what baby is doing.

Speech which is limited to the sentence-word, or similar sequences of sound erroneously regarded as

" elliptical," can mediate co-operative action only with reference to a context of experience similarly verbalised in the habits of the participants and perceptually present to them. For co-ordinated action beyond the limits of the common perceptually present situation, speakers must use " words " in longer and more purely verbal contexts. In written language the context is entirely verbal and referred to an assumed common background of experience.

The characteristic feature of all spoken language is that native speakers make the fullest use of the perceived situation and of the assumed background of common contexts of experience. The speech of a certain class of Englishman provides a good example of phonetic efficiency. It is a form of speech often severely criticised by those who have not had the opportunity of acquiring it. For it is not to be had from books. It is one of the least bookish of languages.

Social groups which have developed a polished culture and " perfect manners " employ forms of speech which make the fullest use of the assumed background common to the groups and of situational contexts. Their code of manners is the indispensable accompaniment to their phonetic code, and that close control of social intercourse which produces fine manners, prohibits excessive motor overflow, and speech is characterised by the utmost linguistic economy. And it must be remembered that the linguistic " economics " of speech are not those of writing. All unwritten languages have a freedom of progressive economy to some extent, more particularly those employed locally by civilised communities. Many excellent local dialects of English are as economical and perhaps more homophonic than the dialect of the upper class. For reasons given above it will be clear that to complete spoken words or suppose something " understood " which is really supplied by the situation, is thoroughly unsound and ignores the real nature of the function of the spoken word. The use of such terms as " contraction," "mutilation," "ellipsis" in describing normal speech habits is unscientific and unnecessary. And grammar is logical, and makes language amenable to reason. Common speech is, however, not the servant of reason. Group association gives speech behaviour an especially affective character. It is as full of feeling as the social life of which it is a directive function.

Everybody knows how the presence or absence of companions, of particular individuals, can "affect" the values of things and our attitudes towards them. The bone a dog has left, tired of gnawing it, takes on a fresh attractiveness at the approach of another dog. It is in a continuum of social experience that speech functions. Just as behaviour changes with company, so does speech. It is therefore clear that it must be mainly affective—what some would call primitive. All spoken languages are equally primitive on some levels of usage.

In the simplest normal speech situation, involving at least two persons, such as one in which you say, "Look out!" the words are stimulus-response acts related to, "referring to," some context. But, in addition to this directive reference, the speaker also "expresses" his attitude towards the referent and towards the listener. His feelings may also be urging him to attempt to include his partner in a behaviour pattern he anticipates for them both. So that to get at the "meaning" of spoken words is no easy matter. The "meaning" involves at least four things—the directive reference, attitudes towards that reference, towards the person addressed, and the purpose. It also depends on the habitual verbalisations of the group.

Written language is also largely "affective" in character, so that all young people engaged in the excellent exercise of translation should be reminded that to translate mere "words" is a vicious waste of time. The best translation howlers are always worth publishing, but every intelligent schoolmaster knows that for every gem that gets into the Press there are millions of the ordinary kind too sad to deserve notoriety. Such is linguistic education.

The "intellectuals" point out that "evocative" or "affective" language is "non-symbolic," and that only the symbolic use of words has any real interest. But by far the greater number of abstract "words" are based on other "words" integrated in ordinary social behaviour. Highly developed abstract written language is truly "symbolic" only if we have a substratum of what we may call primary words already standardised by co-operation—that is, convergence of action in some social group. To be linguistically solvent you must be able to exchange your terms somewhere and somehow for gold of intrinsic social value.

Babus, both white and brown, in England and in India are often linguistically insolvent, though their creditors rarely force them into open bankruptcy. Most Indian English is badly overdrawn. But it is kept going by the Government, and though it has therefore a certain local currency, it has no gold backing. English literature up to and including Addison is not a suitable security on which to issue current tokens of speech in the twentieth century. Babuism is not by any means confined to India. It is the common danger lurking in all purely literary education, and especially perilous if the languages are alien to the social life of the learners. Foreigners learning another language from books often become quite fluent—they acquire a service of words which is not speech. They have not learnt the habitual "economy" of the native in social situations, and their sentences are often much too long, too complete, sometimes too grammatical. And they cause amusement by using strange words equated in the dictionary with the right ones, but not socially operative, and therefore having a ludicrous "meaning" to the native. Pedants often improve their speech in similar ludicrous ways. Another difficulty for a foreign speaker is that the short economical phrases of the native require something like a native pronunciation to give them their full "meaning." The more you talk like a book, the less your pronunciation matters.

In the primary speech situation "meaning" is as much a property of the situational context of people, things, and events as of the "noise" made by the speaker. The noise is important, but not nearly so important as purists and others believe. It does not really matter if *tar, tire, tyre,* and *tower* are all pronounced alike, though it is convenient to spell them differently. Indeed, homophony is often the result of a more efficient phonetic economy. We get on quite well with *see, sea, C,* or *pair, pare, pear.* Even if we say "He's a bad pear" for "bad payer," no harm is done. Phrasal homophony is quite common. It is unnecessary to strive after the phonetic separation of phrases like *your arrival, you're a rival,* and purism to complain about the ambiguity of *Who'd' you give it to?* It is possible for the *d* to be present, past, or conditional, according to context. The features we single out for naming are pivotal points on which co-operative action turns. And the meaning derives from the whole system which pivots round the directive stimulus, and not merely from the pivot itself. With normally conditioned people words become part of habitual action, and the only meanings they can have are the behaviour patterns, of which they are the co-ordinating function. And, as everybody knows, the same sounds can be used as functions of different patterns. The principle of one pattern one sound could not be maintained in the flux of the ever-changing continuum of experience, and even if it were feasible it would be uneconomical and unnecessary. It may be necessary, however, to separate homophones orthographically and perhaps also in broadcasting.

Another aspect of the problem of meaning concerns "inner speech." In 1879, Bain and Ribot expressed the opinion that in reading or recalling a sentence we feel the twitter of the organs. "Each visual perception is accompanied by suppressed articulation." A little later, Egger and Ballet doubted this, believing in something "psychic," while Stricker said we could not have an idea of the sound *b* without feeling some movement. However, Paulhan (1886) maintained he could have an image of a vowel sound while pronouncing aloud another vowel. A few years ago, two American psychologists attempted an experimental investigation of the movements of the tongue in internal speech or "verbal thought." They found that when these movements did occur they corresponded to movements in overt speech of the same words only in 4·4 per cent. of cases investigated. The reader may try an experiment on himself. Let him hold his lower lip down from the teeth or the tip of his tongue out of his mouth between the thumb and finger, and repeat silently to himself, "Peter Piper picked a peck, etc.," or "Baa, baa, black sheep." Does this interfere with the sound or feel of the words, or is there some articulatory discomfort?

The early discussions on inner speech did not touch the bigger question of the extensive motor accompaniment of thought, nor did they suggest a purely mechanical or materialistic explanation of all thought. Influential schools of modern physiology and psychology have suggested that such an explanation is possible.

It has been suggested by Dr. Knight Dunlap, of Johns Hopkins University, and also by other American investigators, that the motor accompaniment of "thinking," as distinguished from sensation, consists of slight incipient or tentative muscular contractions, which, if fully performed, would be visible or audible, or both; that these movements can occur "unconsciously," and that many movements can occur together in systems, simultaneously, or successively. All onomatopœia they believe is based on the occurrence of tentative movements—phonetic as well as other bodily movements; these tentative movements of the speech muscles, respiratory mechanism, facial expression, of the eyes, fingers, and arms give the " feeling " to such words as *titter, gurgle, fumble, dangle*. It is suggested that these tentative movements cause kinæsthetic sensations, and so, when organised into systems, motor or kinæsthetic imagery. All learning involves the formation of a complete act. In establishing a motor habit the whole motor pattern of the act comes to have its kinæsthetic system of images, which can function as the anticipatory representation of the behaviour pattern. It is only by such anticipatory images that behaviour in progress can be controlled.

Verbal rhythm in speech and verse depends, according to this view, on the fulfilment or disappointment of such kinæsthetic expectencies. If these views are valid they have important bearing on all language teaching, on all literary appreciation, and on literary criticism. The American behaviourist, Watson, holds that all " thinking " is Inner Speech. In considering " Inner Speech " in this sense it is not sufficient to experiment with tongue movements or point out that a man can think without a larynx or when he is deaf and dumb. The machinery of " Speech " involves a widespread network of processes. In the pronunciation of the simplest word the brain, the whole of the respiratory tract, the abdomen, and so on are involved, and also as a rule other bodily acts in the relevant context.

CHAPTER VI

PHONETIC HABITS

Professor Pavlov of Leningrad repeatedly feeds a dog to the accompaniment of a particular note. The note is part of a pattern of stimuli, which, if suitably responded to, brings the dog the final satisfaction of being fed. The repetition of the context of experience culminating in the satisfaction of the need for food establishes an attunement, a "setting" in the central nervous system. In time, the note alone will touch off the "setting," and the dog responds by salivation and is presumably in a state of expectant gastronomic excitement. If food follows, the act is completed, and the habit succeeds. So long as the note starts off the feeding act, it means food. If you continue to sound the note and no food is forthcoming, the attunement will break down. The same note will not mean food. It is the need, desire, purpose, which is the mainspring of the act. The end-state is the motive power which makes the machinery work. In the experiment above quoted the motive power is the need for food. This need engrosses the note as a necessary condition of the dog's response. He learns to feed in this way. He acquires a habit.

Some habits are instinctive—that is, they are controlled by innate settings of the nervous system, in which a particular set of stimuli invariably touches off a particular kind of response. Wasps, bees, ants, furnish examples of highly developed instinctive behaviour of this kind. In such cases there is no learning. All characteristically human habits involve learning. And learning by experience, acquiring useful habits, means an individual power of adjustment, involving experimental attunement, retention and recognition, and thereafter an adaptability in habitual response.

The most important habitual acts of man are his words. Speech has to be learned. It is in no sense instinctive. Words are acquired habits, but they are not often particular responses or particular stimuli. The particular note used as the conditioned stimulus in feeding Pavlov's dog comes to "mean" the habitual act of which it is a part, that act and no other. And that note and no other will touch off the setting. Ordinary words are not fixed habits of this sort.

Speech is our most valuable implement because we can make it fit our habits as we adjust ourselves to our environment. Hence the wide range of phonetic and semantic variation. We learn words as conditions of satisfying our needs. A phonetic habit is an attunement, a setting of the central nervous system, which will be touched off by the appropriate phonetic stimulus. This " setting " is probably a disposition to function in a fairly wide range of varied but in some respects similar contexts.

A spoken sentence is a series of phonetic conditions progressively completed. Sounds having affective value succeed one another, and as they accumulate the pattern and the effect become clearer. After a certain number of sounds have been made by a speaker, any similarly conditioned listener would be able to complete the pattern, and the phonetic sequence. In other words, a spoken sentence is a succession of directive stimuli, in a sort of phonetic pattern combining to evoke a suitable habitual response. In small speech groups, such as the family, caste, or class, the possibility of misdirection is reduced to a minimum by common conditioning. People who habitually use similar noises in similar situations are of one mind about the fundamental things of life.

The adaptability of the instrument is the secret of its great power. Phonetic habits may be intricately interwoven, but they are based on broad " attunements " permitting flexibility of response, substitutions, replacements, and so on, as required in intelligent behaviour. No two people pronounce exactly alike, and most speakers use more than one style. The same speaker will employ several variants of the " same word " as required in different situations. There is not one word *have*, there are many *haves;* there is not one *k, t,* or *i,* but groups of related variants of these sounds. Familiar sounds are constantly being made and heard in slightly unfamiliar or partly new contexts of experience. And yet we recognise and respond to these words, as to our own names, pronounced by all kinds of voices and in all manner of ways. We respond to speech sounds through a wide range of personal and dialectal variety. What the minimum of "intelligibility" would be for a given type of phonetic sequence is very difficult to define. There are quite a number of Dutch, German, and Scandinavian speech sequences that might evoke a certain measure of appropriate response in a unilingual Englishman of average intelligence.

It is not easy to determine what are the units of speech. Some would say speech sounds, others phonemes—that is, groups or families of sounds, such as the *k* group or *l* group, or the neutral vowel group. The difference between *pet* and *bet* depends on the English habit of regarding *p* and *b* as different phonemes—that is, of making significant use of the difference between *p* and *b*. In many Polynesian languages the difference between *p* and *b*, or *t* and *d*, *k* and *g*, is not significant. That is, you could say *papa*, *baba*, *paba*, or *bapa* in the appropriate context—they would all serve as one "word." Similarly, *t*, *s*, *ts* are often regarded as one phoneme. Words are separated from one another phonetically by phonemic differences, varying from people to people. In English we have noticed twenty-five consonant and about twenty vowel phonemes.

Although individual pronunciations may differ, the phonemic habits of the same group or class will be similar. They will make similar use of heterophony. Words not phonetically separated—that is, homophones—may be separated by function or by experiential context. But not all phonetic differences are significant. We may make different noises in the same situation, and quite commonly the same noise in different situations. The general opinion is, however, that words, not phones or phonemes or phoneme systems, are the units of speech. But just as phones are grouped in phonemic habits, so "words" group themselves into families of linked words or related habits. Some words are lonelier than others. The fewer derivatives and analogues a word has, the weaker the background of bodily habit, the lonelier it is. Anything may happen to it. *Horse, folk, veal, lamp, car* are lonelier than *cat, strain, scream, crumple, clatter, slacker.*

Take the phone sequence *slack*. It is not an isolated habit. It is a part of a network of grouped habits. The etymon *slack* belongs to the group or etymeme *slack, slacks, slacked, slacking, slacken, slackness, slackish, slackly, slackest, slacker, slackers.* Other groupings crossing this one are the many prefix and suffix groups, or morphemes, such as the *-ly, -ness, -ish* groups, plural groups, and such groups as *the* slack*er, the* blight*er, the* bound*er,* etc. In passing it may be noted that we rarely hear *a, the, I, he, at,* etc., alone in actual situational contexts. These " sounds " are not etymons. They are more likely to be particles or sounds characteristic of morphemes.

The patterns of language in the " unconscious " background are just as important as the patterns of speech we make and hear. Perhaps the patterns are the important things. Intonation or speech melody, and the concomitant syllabic distribution of stress and length, are very significant elements of the pattern, but the order of the phones and words is perhaps the formal framework we recognise as recurrences of known words. Sequence and arrangement is more important than the repetition of the identical pronunciation of the phones.

Theoretically it is possible to have an infinite number of different phonetic patterns in speech. Actually, of course, the same patterns, and analogous patterns are constantly recurring with the recurring familiarities of daily life. And the tendency is towards phonetic economy. If the contexts are sufficiently different, the same sound sequences may be used with very different functions. For example, in English we have *sawed, sword, soared; you're a rival,* and *your arrival; son and* *heir, sun and air.* The same, or very nearly the same sounds can function differently according to their relation to their situational contexts. And this even when intonation and stress are constant. This kind of phonetic economy, known as homophony, is not confined to words and phrases. It applies also to phones. A sibilant added to *bake* has quite a different function from the same phone added to *lake* or put between *Dick* and *father.*

When functions and contexts clash with homophonic links the only value of homophony is the possibility of a pun. But homophony also serves as a link grouping " words " together into etymemes and morphemes, corresponding to linked contexts of experience. All signs of number, person, gender, affixes, and most of the phonetic characteristics singled out by grammarians are " homophonies " of this kind. As we have seen, to describe *the slackers* as an English habit we must refer it to the *slack* etymeme and to the three associated morphemes characterised by *the, -er,* and *s.* But the whole of the *slack* etymeme belongs to a much bigger group of habits we may call the *sl* phonæstheme. We are now in a position to understand *slacker* as a phonetic habit. Semantically it must always be considered in an actual context of situation or experience. The acquirement of speech is the verbalisation, or habitual " phoneticising " of experience. The network of phonetic habits is therefore part of the pattern of experience. Words do not in any sense " hold " or " contain " or " express " the " meanings " shown against their written forms in a dictionary.

We are appreciably *affected* by initial and final phone groups not ordinarily recognised as having any function. Consider the following English words: *Slack, slouch, slush, sludge, slime, slosh, slash, sloppy, slug, sluggard, slattern, slut, slang, sly, slither, slow, sloth, sleepy, sleet, slink, slip, slipshod, slope* (particularly in slang), *slit, slay, sleek, slant, slovenly, slab, slap, slough, slum, slump, slobber, slaver, slur,* *slog* (dial), *slate*. An isolated word which does not function in a context of experience has little that can be called meaning. But a group of words such as the above has a cumulative suggestive value that cannot be overlooked in any consideration of our habits of speech. All the above words are in varying degrees pejorative. There is nothing inherently pejorative in the sounds, though it has been suggested that *sl* is suggestive of salivation. It so happens that we hear and learn to make these sounds at present in what we may describe as pejorative contexts of experience. The more consistently similar sounds function in situations having a similar affective aspect, the clearer their function. In this way, then, *sl* can be said to be a pejorative phonetic habit. If there is anything at all in linguistic analogy by homophony, phonetic links such as *sl*, are experiential links. And every word in a linked group derives some of its force as a directive stimulus from the group, especially from its nearer analogues. Some words are "qualified" no doubt "unconsciously," by two or more phonetic habits. The word *slump*, for instance, from the above list is also linked with *bump, dump, thump, plump, sump, jump,* and these also with *clump, rump, mumps, hump, stump.* Common phonetic habits such as these pre-dispose an Englishman towards the understanding of, say, the excellent pejorative title of the recent German War Book *Schlump*. Indeed, the "group settings" or phonetic habits of the Germanic peoples are so similar that linguistic kinship can be established on these evidences alone.

The initial consonant groups *sn* and *sm* also appear to link somewhat pejorative situations, though their suggestive value is subtly different from that of *sl*. Examples are: *Sneak, snack, snatch, snip, snap,* and *small, smut, smudge, smash, smatter.* Other groups of words having common phonetic characteristics are linked by similar "settings," and have an associated kinæsthetic background. It is possible to suppose that *stresses* and *strains, strength, straight,* or *stretched-out* things, might be associated in a common motor background; for example, *stripe, stride, strive, struggle, strange, streak, stream, strike, string, strenuous, strut,* etc. It is interesting to note that these words have no common etymology, and yet they may be brought together by alliterative and experiential analogy.

Rhyme can also provide the phonetic link between words functioning in linked contexts of experience. We have noticed the *slump, dump* group. We might add such verb groups as *scoop, swoop, droop, stoop, loop, whoop,* with a back vowel, and *brisk, frisk, whisk, risk, crisp, wisp, lisp,* with a front vowel.

As an illustration of the complicated inter-association of such alliterative and rhyming groups, let us take the two words, *swirl* and *twirl.* The suggestive value of these two words probably derives from three groups of words. First the *sw* group—*swill, switch, swish, swell, swim, swoon, sweep, swipe, swoop;* then the *tw* group—*twitch, twist, twine, tweak, twinge, twinkle, twiddle, twaddle,* and the *-irl -url* group.

Occasionally a fusion of two situations suggests a corresponding blend of the phonetic characteristics of the appropriate words—*e.g., brunch*—(breakfast and lunch). Trade names are often invented in this way. Edward Lear and Lewis Carroll toyed with their phonetic habits and gave us " nonsense " words not without meaning. But there are few words that can be definitely traced to known " mixing " of this kind. The phonæsthetic habits noticed in this chapter are much more than " blends " as ordinarily understood, and are of general importance in speech.

Jespersen felt this when he wrote " Blendings of synonyms play a much greater rôle in the development of language than is generally recognised." Among his examples of " blends " he gives, "Twirl = twist + whirl." But this is not sufficient. We cannot limit the habit-background of *twirl* to those two words. This background probably includes the *tw* and *-irl, -url* phonæsthemes. It is not easy to state explicitly what the phonetic and experiential background of a word like *swirl* is. To select two constituents from the lists given above would not give us a satisfactory basis. To avoid the usual associations I have not used the term "blend." Moreover, phonetically and experientially linked words need not be either cognate or synonymous.

We have seen how one kind of word variety depends on the scale of vowel qualities—*e.g., least, list, lest, last, lost, loosed, laced.* When the words are consonantally but not experientially linked, vowel mutation only gives different separate words. When the consonantal link is etymemic or phonæsthetic, vocalic heterophony will also have some sort of function. Vowel variation in otherwise similar phonetic sequences is a common verbal device in English and other Germanic languages—*e.g., drink, drank, drunk, sink, sank, sunk*. In these cases it is interesting to notice we have not made any further use of vowel variety. We do not use *drahnk, draynk*, etc., though by consonantal modification we have *drench.*

But vowel variation is widely used for other purposes in most Germanic languages. We sometimes vary the vowels to suit in some way the varied aspects of similar actions—*e.g.*, the verbs *drip, drop, droop.* Why *i* should suit the first sort of action and *oo* the third, it is possible to guess—but we must beware of sound symbolism. Here again we do not exploit all vocalic possibilities—we have no *dreep, drep, drahp, drup, drerp*, etc., but we have *drape* from the French. And who shall say this word is not influenced by the above group, and generally, of course, by the whole monosyllabic *dr* phonæstheme.

The above remarks are not to be interpreted as a theory of inherent sound symbolism. There is no suggestion whatever of Humboldt's "impression on the ear resembling the effect of the object on the mind." Humboldt's *stehen, statig, starr*, etc., do not show that these sounds directly symbolise firmness. But a consideration of *stand, stiff, staff, steep,* and many other similar words leaves no doubt about the spread of *st* from context to context in the past.

Some of the classifying particles of Chinese and also of Burmese for flat, long, or round things or extremities, and so on, are quite similar phonæsthetic habits, though they do not employ the same sort of phones. Some of the classifying prefixes of Bantu languages are probably also phonæsthetic. But with the doubtful exception of certain sibilant consonants, there would appear to be no inherent phonæsthetic value in any speech sound. It is all a matter of habit.

The use of reduplication, of *ee* and *oo* sounds, and the liquid *l r n m* sounds as intensives, as diminutives associated with reiteration, or with affectionate, or pejorative feelings or regard for the picturesque, will account for much of what is loosely called onomatopœia.

Play on phonæsthetic habits gives much of the pleasure of alliteration, assonance, and rhyme. In English the phonetic poet par excellence is Swinburne. His effects depend so much on play on our national phonetic habits that he is quite untranslatable. Onomatopœia, when it is not quite simply a literary tradition, is probably based on the habitual similar phoneticising of similar contexts of experience.

CHAPTER VII

LINGUISTIC KINSHIP

LINGUISTIC relationship has usually been traced to common parentage. As Meillet says, different languages belong to the same family when they are

" differentiations of one and the same language spoken at an earlier date." Linguistic relationship, like blood relationship, is usually established historically. The further back you go, the more certain you can be of pedigree. But if you go back far enough you may get to Adam and Eve, and then what?

Going back shows us that the French *fendre* is the same as English " bite," *faire* the same as " do," that, strange as it may seem, " cow " and " beef " are identical. And going back gets us further and further away from the habits we know and can observe.

It is, of course, of the greatest interest and importance to put languages in converging perspective by historical studies. Moreover, as no one thoroughly understands the workings of speech, and as in these circumstances linguistic prophecy would be hazardous, the only thing to do, if you do not study the habits of the people around you, is to attempt to look back for the origins of the present. In this spirit Meillet and Cohen have given us a unique volume on the languages of the whole world, and Meillet and Tesnière a characteristically Gallic book on language politics in post-war Europe. In the latter work* the reader will contemplate the confusion of Babel from the capital of European culture. But the speech of the English countryside, even of the capital of the English-speaking world, is evidently a long way from Paris. Of our language after the Norman Conquest he can say, " it no longer resembled the primitive Germanic, and still less the Indo-European." Our phonetic system is original and has no sort of " traits in common with any other language of the world, no matter of what family."

Whether or not the English we speak has anything in common with primitive Germanic or Indo-European is not a question for the student of speech. Do we notice, as a matter of fact, that Dutchmen, Danes,

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* Meillet, *Les Langues dans l'Europe Nouvelle.*

Swedes, and Englishmen share many similar morphemic and phonæsthetic habits? Do they actually "phoneticise" their experience in similar ways? The answer is undoubtedly in the affirmative. If we consider their phonetic habits in the common sensual life, these peoples speak kindred languages. Common Germanic is a type of living speech, and so is common Romanic, and common Chinese. Ur-Bantu may be a useful abstraction; it was never the habitual Bantu speech of an ancient Bantu race. But anyone who has travelled Africa knows there are phonetic habits common to all Bantu forms of speech. That Meillet should find it possible to compare our "grammar" with that of Chinese only serves to show once more the unreality of grammar. The syntactical inter-relations of words is not nearly so important as word groupings and the relations between phonetic habits and contexts of experience.

Centuries of grammatical accretions have incrusted language study and protected it from the lively air we all breathe and speak by. Men busy themselves with grammatical nexus, too often forgetting the more vital nexus between phonetic habits and the behaviour "patterns" of our common social life. And what are we to make of the philological subtlety of the statement that English is "an Indo-European language in the historical sense; but no longer in the actual sense"? And of Italian and Hindi, are we to suppose they are actually as Indo-European as the Telegraph Company?

The sane and classic French intelligence has often been puzzled by the mad Englishman. A few flashes of insight into the English character have been sufficient to make one Frenchman famous. Recently he told us a French translator had been defeated by the expression "a somewhat sketchy proposal," and had found no better equivalent than "a very interesting project." Besides "somewhat" we have *somehow, somewhere, sometime, someday, somebody,* etc., as well as *anyhow, anytime, anybody, anywhere.* And although etymology has established the fact that *sketch* is from the Italian *schizzo,* and through Latin, from Greek *skhedios* = offhand, *sketchy* derives its "setting" from the living suffix *y,* and from the monosyllabic phonæstheme with initial *sk,* which appears to link "superficial" experiences, particularly those associated with superficial movement, edges, surfaces that are thin layers, or thin-shaped surfaces, and certain kinds of thinness. Such words are *skate, skedaddle, skid, skiff, skill, skim, skimp, skin, skip, skirt, skit, skull.* The etymology of these words is exceedingly various, but it is impossible to ignore the suggestive value of grouping. Though *sketchy* has a Romantic history, it is not a Romance habit. But engrossed as it is within thoroughly Germanic phonetic habits, it would not present any difficulty to a Swede.

It is interesting to notice that English shows another similar group of monosyllables in *sh,* which is one of the possible substitutions for *sk.* Such words are *sheet, shot, shave, ship, shape. Shy* and *skew* are also an interesting pair. The force of combinations like *sheer, sheen, shimmer* in advertisements of silk stockings is not lessened by the significant alliteration. There are overlapping links with the *skr* and *shr* monosyllables, which the reader interested in crossword puzzles may work out himself. Examples are *scrape, scream, screech,* and *scrub.*

If it can be shown that similar groups of words linked by similar common phonetic "co-efficients" are to-day used by Norwegians, Swedes, Dutchmen, Prussians, and German-Swiss in their everyday speech, there is *prima facie* evidence of common phonæsthetic habits and therefore linguistic relationship. Well, in Dutch there are about fifty pejorative words in *sl,* such as *slabakken* (to be lazy), *slampamper* (a "long" dissolute person), *slat, slecht, slet, sleur, slobber, slording, slinks,* and a very interesting borrowing from the Malay, *sloeri* (a disreputable, untrustworthy person). The importance of "phonæsthemes" in permanently naturalising borrowed words has not been properly recognised. A phonæstheme group is a linguistic disposition, and must affect analogous borrowed words, and words in big groups of this kind are not as likely to disappear or be replaced as lonely or unsupported words—such as *horse,* for instance. *Nag, gee-gee, pony, mount, hack, tat, mare,* almost anything will do for horse. The "horsy" man rarely uses the word horse at all.

In Norwegian (including dialect) I have noted about eighty pejorative words in *sl.* There are many in Swedish which are very similar to English—*e.g., slagg, slak, slok* (slouch), *slummer.* Most Germans pronounce the *schl* as *shl,* but they too have quite a number of such words—*e.g., schlabber, schlaff, schlamm,* and also of course *schloss* and *schlüssel.* The majority are, however, pejorative. Similarly, if you compare the *sm* and *sn* groups you will find a good deal of parallelism. There are about twenty-five *sn* words in Norwegian which might be described as "nasal" words, akin to our *sniff, snigger, snag, snub, snob* series. In the same language you will find about seventy *fl* words, which might be called the *flat, flip, flake, fleck, flick, flicker, flounder* group. In most cases the following consonants are also common to the two languages. Their *fl* habits are differently distributed, but have a similar basis. Cream is *flóte,* and a grand piano is *flygel,* and Yorkshiremen will understand the word *flebe* for easy weeping that does not make too much noise.

There are also over seventy *kr* words, such as *kropling* (cripple). The initial *kl* is a common phonetic function of over eighty "clumsy, cloggy, ungainly, sticky" words, many parallel with English and other Germanic languages, such as *klabbe* (the snowballs clogging under skis), *klasse* (to stick, mess, adhere), *klumpe* (lump together, slump, clot). A comparison of these and other groups, such as the *dr, tr, spl, skr,* *shr,* are equally interesting in Norwegian, Dutch, and German, especially in the dialects. In Norwegian it is interesting to find *spring* is an elastic band, a vault or jump, a fountain, and coition; *sprade*, to show off, strut, swell. The "splitting" words are almost the same, and also the *-ump* words, such as *hūmpe, jūmpe, stūmpe, trūmpet,* and a few vulgar words in common use.

In Dutch, the *sch* and *schr,* with the velar fricative (Scotch, lo*ch* sound) in place of our velar stop (*k*), provide dozens of parallel words. Similarly, *homp, stomp, romp, klomp, schonk, tronk, stronk,* and so on, are not unfamiliar habits to an Englishman. When next you are in Berlin with your wife and notice "*str*umpf" on the stocking shops, think of the *str* group of English monosyllables and begin to link up your phonetic habits with "common Germanic," "common European." But the most interesting "affective" sounds in English and the Gothonic languages generally are the phonetic characteristics of the so-called iterative or frequentative verbs. There are about one hundred and twenty of such verbs in English which are habitually used in situations having certain common characteristics, and which have the common phonetic element of a final syllabic "dark" *l* sound. Some of these are *bungle, coddle, fiddle, nestle, sprinkle, tipple, wobble, wangle.* There are many more in dialect, such as *niggle, fettle, snaffle.* This phonetic link, or common function, can be broadly classed as "diminutive," and appears with a good deal less force in nouns like *handle, kettle, thimble.*

Another phonæsthetic group of verbs, the common phonetic characteristics of which are rather difficult to formulate, but which can be easily heard and felt by an English reader, are also "diminutive"—that is, they describe actions, etc., which are iterative or frequentative, in little bits, so to say, and are often pejorative or picturesque. Both in this group and the preceding *l* group the reader will appreciate the suggestive force of those verbs which are also backed by the initial consonantal phonæsthemes described in the preceding chapter. Such are the words *blither, blather, bicker, bluster, tinker, tamper, swagger, scatter,* and sixty or seventy more. And there are the forcible Northern verbs—*shutter* and *natter.*

The reader will appreciate the subtle difference in the phonæsthetic value of these two groups. But they are closely allied, as a study of similar words in the Gothonic languages would show. If you look up an *-l* verb in the Oxford N.E.D. you will almost invariably find it described by one of the *-er* class. German has many verbs of both types—*e.g.*, hätsch*el*n, einschmeich*el*n, taum*el*n. The value of the *r* in the *titter* group is appreciated in the *-ing* form in English —*e.g., tittering, doddering,* etc., and so comparison will be easier with the German plaud*er*n, erbitt*er*n, zersplitt*er*n, etc. In Swedish both types are common —*babbla, kackla, skramla,* and *pladdra, snattra, smattra,* etc. In Dutch there are over eighty frequentatives in *l,* and about thirty in *r.* In the Dutch of one of the Southern Provinces of Holland there is the extremely interesting example of *plimplampletteren* = to play ducks and drakes. Here you have reduplication with vowel mutation, combined with the picturesque and sometimes pejorative diminutive-frequentative. Some would dismiss this in one word—onomatopœia. It is a convenient synthesis of phonæsthetic habits. The sounds in themselves " paint " nothing. They would " mean " nothing to the Polynesian islander, whose phonetic habits are much more phonæsthetic than ours, and full of reduplication, diminutives, and other intensives.

All foreign students of English who speak Gothonic languages can adopt a number of our phonæsthetic habits with confidence, because they have very similar phonæsthemes in their own languages. And any English boy who links up the associations of his one hundred and eighty frequentative verbs with similar German verbs begins in a small way to feel as a native feels in those particular habits. To most English boys it will be news that there are such things. The Gothonic languages have also many common etymemic and morphenic characteristics. These are to be found, under other names, in most of the good grammars. It is clear, then, that speakers of the Gothonic languages have many speech habits in common and speak kindred languages. We must develop a technique which will make it easier to pass from one language to another.

CHAPTER VIII

STANDARD ENGLISH

The invention of printing, the spread of literacy in the vernaculars, worldwide colonisation and migration, the enormous expansion and quickening of social life since the Industrial Revolution, the growth of nationalist democracies and popular education since the French Revolution, and now the gramophone and broadcasting, have produced a complex of social and linguistic problems which we are only beginning to understand. The Russian Revolution, which has affected the whole of social life, has also led to a new and interesting linguistic and cultural experiment — " Proletarian speech for proletarian culture, with local option."

The possibility of a distinction between " educated " and " uneducated " English dates from the beginning of the seventeenth century, when grammarians actually busied themselves with the pronunciation and proper use of the mother tongue. But it must be remembered that the squire continued to talk very much like the peasant, just as later on the West Riding manufacturer talked the dialect of his "hands." There are still a few who maintain the old tradition, even in these over-educated days. The eighteenth century gave us, among other good and bad things, Dr. Johnson's *Dictionary*, and added to the grammatical and literary influences on speech. But the big event in the history of "educated" English and the growth of the influence of literary tradition on English speech was the Education Act of 1870.

The elementary schoolmaster's "educated" speech made children ashamed of the speech of their parents. With compulsory education, speech "affects" spread throughout the land, perhaps rather more amongst the lower middle class than amongst "the workers," and so it is that after fifty years of compulsion, of linguistic conscription in the interests of democracy and the national language, the Board of Education in 1921 (*Report on the Teaching of English*) found that the difference between educated and uneducated speech was still the cause of much prejudice and difficulty of intercourse.

By educated English we must not understand standard English. Educated English shows a wide range of permissible variation. Speakers of this kind of English do not necessarily submerge all signs of social or geographical origin. Their accent is often unmistakably local or characteristic of a class. Educated English is spoken by all classes of people all over the English-speaking world. This is the only kind of English that has the remotest chance of universality even in Great Britain itself. It must be remembered that even a high degree of education is not in itself a mark of class. Educated people do not form a class in England, or in the English-speaking world. Education in itself does not admit a man to any social group. Standard English, on the other hand, is a class dialect;

to adapt Lord Chesterfield, it is the " usage of the best companies."

Professor Wyld holds this view. " It may be called," he says, " good English, well-bred English, upper-class English, and it is sometimes, too vaguely, referred to as standard English." He has written authoritatively on its history. In his unique pronouncing dictionary Professor Daniel Jones says " that received English is usually heard in everyday speech in the families of southern English persons whose menfolk have been educated at the great public schools." This is only one kind—perhaps the " best " kind—of educated English, and it is a sort of norm for all the rest. If this be regarded as the phonetic bull's-eye, most educated speakers score " inners " or " magpies " and the border-liners somewhat conspicuous " outers."

A safer definition of standard English is the purely negative one. Standard speech, according to this view, is " that form of carefully spoken English which will appear to the majority of educated people as entirely free from unusual features." The educated class—whatever that may mean—usually prefer what we may call public school English. Its features are distinctive, but not, we may suppose, unusual. Another safe form of standard English is even more negative. It is one which shows no trace of local or social origin, and is the pride of phonetic dark horses. It would, however, exclude that excellent class dialect which Americans call " typically English." This aristocratic English is quietly, but to many people unpleasantly, distinctive.

Neither of these standards will commend themselves to the English-speaking world. The élite of the public school class themselves would be the last to suggest the possibility of their own form of speech becoming Universal English. The negative standard involving the submergence of the characteristic phonetic habits of class or locality rests on unhealthy speech affects, and will never be operative overseas. Americans are proud of their lively idiom and not ashamed of their accent. A Director of Education in New South Wales says that English in Australia is developing on lines of its own, "especially noticeable in pronunciation." But he dislikes the new pronunciation. That is because he is a director of education. A writer in the South African *Cape Argus* in 1927 also notices the development of a national accent. "Why be ashamed of our accent?" he writes. "One must give the new generations of South Africans credit for having risen above the *feelings of inferiority* that dominated so many of the last generation." But the writer himself was not phonetically emanicipated, for he continues: "I will admit that English in its purity is preferable to a hybrid language, that it is also more agreeable to my ears, more cultured, more refined. But . . . what are we to do? It is impossible to transfer a language which is a growing thing even when stationary, 6,000 miles overseas, and expect it to remain as it was or to develop on the lines of the mother country."

The question of a standard norm for a world language like English is complicated by all manner of social, racial, and political factors. There are the Dominions (including Ireland), India, Africa, and millions of Americans. All have a right to their own form of the language. And the Englishman is the first to recognise this. The Englishman is no enthusiast, even about his own language. He is satisfied that the world should possess it, and welcomes all who become experts in it. The British Broadcasting Corporation would not dream of having a "very English" committee on pronunciation—quite apart from the difficulty of finding the personnel. The Pure-English crusade is, quite safely, Anglo-American. And we are proud that some of the best work on our language has been done by Danes, Dutchmen, Swedes, and Germans. But there is always a danger that a group of English-speaking enthusiasts may be more in earnest and interfere with the normal working of social prestige and improved education towards a reasonably practical standard of linguistic and social intercourse.

And we must not forget that much of this intercourse is written, though in future we may expect broadcasting to play an important part. Though the spoken and written languages are two distinct sets of habits, they are related sets of habits. The ear language is intimate, social, local; but the eye language is general and nowadays everybody's property. We impose the standard of the written language by educational legislation. The written standard reaches everybody. Nowadays the broadcast voice and the miscellaneous voices of the more influential "talking picture" also reach millions of people all over Great Britain, and to some extent the whole of the English-speaking world.

The large majority of educated people in the British Isles are influenced by two norms—the King's English of the Fowler Brothers, and the pronunciation of certain parts of south-eastern England, or of Society, or both. Broadcast and picture speech will probably affect the masses more than people of education.

Educated English, then, shows a wide range of permissible variation in pronunciation and usage. It is controlled partly by a literary norm and partly by social sanctions, though the half educated often abandon good local speech for something which is difficult to refer to a norm.

The influence of print on spoken English since 1870 has been enormous. Spelling pronunciations have become increasingly common, and many speakers show that they have learnt to read and write every time they open their mouths. A few, neglecting literature, attempt to adjust themselves phonetically to a sort of standard set by the better people. But unless phonetic adjustment is accompanied by social education the real idiom is not acquired, and behaviour is likely to be as foreign and diverting as the flower-girl's in Shaw's *Pygmalion*.

On account of the wide range of permissible variation, educated English is difficult to describe. Many speakers of educated English have an accent, traceable to familiar or local speech habits. They are apt to use words which among the "best" people would sound bookish. They do not exactly talk like books, but they sometimes give common social currency to words and phrases which in other circles are meant to be seen and not heard.

But though this spoken language bears some relation to the literary language, it is not by any means the same thing. The speech of the upper class and of the masses at the bottom of the social scale are the most independent of the literary tradition. The coster is possibly a freer man phonetically than a duke; he doesn't have "to talk grammar," though he reads his evening paper and listens to the orthophonic announcer. A duke, however, cannot altogether ignore pressure from below. The abominations of the B.B.C.'s educated pronunciations have been twice denounced in the House of Lords by one who moves in ducal circles. As a rule, however, those who are "very English" naturally do not interest themselves in such things as pronunciation and standard English. It is usually the Irish, Scotch, and Welsh who have the most decided views on such subjects. Englishmen as a rule accept with equanimity the claims of Dublin, Inverness, and certain parts of Wales to special pre-eminence as places where the best English is spoken.

All phonetic behaviour is determined by individual and social needs. Education is such a need, and a reasonable conformity to a serviceable norm will operate as a sort of standard in all speech communities. Educated speakers of English all over the world form such a speech community. They all speak educated English. But they can never all speak public school English, nor, we hope, cultivate a shameful negative English which effectually masks social and local origin and is a suppression of all that is vital in speech.

American and the English of the Dominions are living and racy forms of the common language. Many of the home dialects, too, deserve to continue in local use. In one of his more serious moments in *The American Language,* Mencken suggests "a compromise dialect free from offence on both sides of the water." Closer co-operation, broadcasting, and talking pictures will all help to make a special "compromise dialect" as a second language more and more feasible. The British Broadcasting Corporation have followed a similar healthy policy in selecting professional broadcasters who minister phonetically to "the greatest happiness of the greatest number." But this is not enough. A common standard can be agreed upon, described by competent authorities, and taught in a normalised form the world over as a second language. This would not be a class dialect or a strained form of speech built on phonetic repression. It would be easier to learn than French or German, and much more useful. At the same time, we should encourage an open and natural use of local forms of speech, and possibly local as well as the more universal literature.

From the standpoint of science and of common humanity it is absurd to judge the most characteristically human habit of vast masses of men by comparison with the exclusive dialect of one class or district, and stamp them as impure, low, bad. According to most of the writers on such subjects, the speech habits of about 90 per cent. of the English-speaking world are bad. This sort of nonsense is scattered over the columns of the Press, and when educationists are not saying such things themselves, they have to listen to them as reproaches. Almost any newspaper will provide illustrations of this. But it is difficult, if not impossible, to "correct" local speech *into* standard English. Local speech need not be always stigmatised as bad or wrong. It is different, and the differences *can* be taught scientifically without unduly exalting local *patois.*

Mr. Mencken's *American Language* may or may not be the biggest linguistic "leg-pull" of the present century; whatever it is, it contains much linguistic wisdom. He emphasises, of course, the differences between English and American, and points out the difficulties of the American youngster who speaks American but has to learn English at school. What he says may often be applied to dialect speakers in our elementary schools in Britain. "He is hauled before a pedagogue to be instructed in the structure and organisation of a tongue that he never hears at all and seldom reads." He feels all this is out of harmony with his own habits. As for the living language he actually speaks, and probably will continue to speak to the end of his days, "all he hears in relation to it is a series of sneers and prohibitions." Of the American trying to write "good English" he says: "If he learns to write it, which is not often, it is with a rather depressing sense of its artificiality . . . he never thinks in it or quite feels it. This fact, I dare say, is largely responsible for the notorious failure of our schools and colleges to turn out pupils who can put their ideas into words with simplicity and intelligibility. What their professors try to teach is not their mother tongue at all." Everybody interested in language should read Mr. Mencken's diverting "translation" of the Declaration of Independence into modern American.

The learned have long neglected the vulgar tongue, and Mencken is very hard on the American professor, particularly professors of English. "No professor, so far as I know, has ever deigned to give the same sober attention to the *sermo plebeius* of his country that his colleagues habitually give to the pronunciation of Latin or to the irregular verbs of French. It would be regarded as *infra dig,* I am told, for an American professor of English to concern himself too actively with the English spoken by nearly a hundred millions of his countrymen. He may, if he will, devote a lifetime to the English dialect of Norfolk, or Dorset, but he may not waste his time and his dignity upon the dialect of his janitor, his barber, and his trousers-presser. That dialect, it appears, does not belong to philology, but to humour."

The student of language can no longer afford to lock himself in his study with his books; he must go among men and women and listen attentively to what they say and why they say it. And, judging by recent results in England, philologists are not the people to do this. The attitude of mind necessary to do good work of this kind is that of the social anthropologist in the field. Philological surveys of dialect are eclectic. They sift out most carefully all the genuine antiques, and relate their observations to all kinds of abstractions about ancient forms of English, in other parts of the country. The local universities would serve their people much better if they completed scientific phonetic surveys of the actual dialect speech of their "regions" in the spirit of the social anthropologist. A comparative grammar of the spoken dialects of Yorkshire, for example, on strictly phonetic principles set in a social background, would be of great practical value socially and in educational work of all kinds. The teaching of educated English, for instance, in all the schools of the county could then be put on a scientific basis. And another step would be taken towards improving social relations.

The learned have a duty towards the vulgar tongue. If they really are, as they appear to be, "concerned" about it, let them do something more constructive than perpetually finding fault with it. In France there is always someone complaining about "la crise du français"; in England we have our purity leagues, and in America great efforts are being made to "improve" the speech of the people. Many American universities have departments of speech, not so much for the scientific study of speech as for public speaking and for normative work. To quote the *American*

Quarterly Journal of Speech of April, 1929, their aim is to promote "a better national speech" to teach people "to be efficient in conversation"; there is even "speech hygiene for daily practice." The American National Council of Teachers of English are also out for "better instruction in the mother tongue," though, as Mencken properly warns them, "often without due discrimination between what is in the books and what people actually speak."

Such normative work may be useful and necessary, especially in America, but it must rest on sound social science, not mere prejudice. There is no scientific reason, though there may be social reasons, why proficiency in the standard language should not, at any rate for a time, go hand in hand with the survival of local dialect. The bilingual Welshman often writes and speaks English better than the linguistically confused provincial.

The "complexes" and "affects" connected with speech would make an interesting study, and the results would be of great practical value. They might throw a good deal of light on the advantages and disadvantages of a Council school education, or of the Oxford, Manchester, Aberdeen, or New York accents, and perhaps solve the language problem for the Irish. Though the Irish are not without wit and wisdom in this matter. Shaw's *Pygmalion* shows how diverting the alleviation of phonetics can be in the social comedy in which we all play a part. Phonetics is one of the most practical of the social sciences.

Mention has been made of the new influence of the broadcast orthophonic voice and of the talking picture. These "standards" are auditory and operate differently from those of print, but there is a tendency to over-estimate their suggestive power. The masses of the people may lend their ears for amusement, but they are likely to continue to be sociable when they open their mouths. Indeed, it is conceivable that any one speaker from 2LO will be tolerated by the majority and welcomed only by a few of those actually listening. Not that the masters of the ether show prejudice. Many brilliant talkers have addressed the public on serious subjects in educated English with a "pronounced" local accent. This is, of course, inevitable. It is also a very healthy public influence, though it is counteracted to some extent by the fact that in an exaggerated form the local accents of London, Lancashire, Yorkshire, and Glasgow are the vehicle of low comedy. On the other hand, the genuine local speech of "Zummerzet" with a picturesque background has quite a high æsthetic value. The B.B.C. might do a good deal for the proper appreciation of standard southern English and local speech by encouraging genuine dialect speakers to use local microphones now and then on other than comic occasions. The two forms of speech are distinct, and the clearer recognition of this would be a social advantage.

Telephone and broadcast pronunciation must not be confused with the habits of normal speech. It is to be hoped the gentle announcer at home or at his club does not always insert a consonant, the glottal stop, between the *i* and *a* of such words as *negotiation,* or between the *u* and *i* of *Louise*. The B.B.C. committee on pronunciation is properly concerned with matters such as these. It is attempting an authoritative standard of radio-orthophony, and critics of the work of the committee misunderstand its purpose. It is not attempting to improve their pronunciation. It will in time set a higher standard of orthophony for professional broadcast lecturers and announcers. At the moment it is confining its attention to the pronunciation of individual words. It is just conceivable that the committee and its fiats are responsible for much of the stumbling and "unnatural" reading we hear from some of the announcers. In the attempt to give effect to isolated and comparatively unimportant details of the pronunciation of isolated words they may lose their natural rhythm and easy flow of speech, and, when compared with some of the speakers who appeal on Sunday evenings or lecture to us in perfect phonetic freedom, sound at times rather like phonetic robots. If there is such a thing as microphone speaking technique, which is extremely doubtful, it will not be furthered by pernickety phonetic criticism of professional announcers. Tinkering with the pronunciation of isolated words in the speech of cultured men who are linguistic public servants is obviously an amateurish attitude towards their public responsibilities. All such officers should speak the King's English as their unquestioned birthright, and part of their professional training should be practical phonetics.

Television will give the voice a limited visual context, but even illustrated listening will be a form of aural reading, and, as with ocular reading, the meaning will depend on the assumed common background. The best that television can hope for is probably a broadcast talking picture of a poor type. People expect more of the film than illustrated listening. The developed talking picture will eventually present the big contexts, the moving panorama in which the voice plays about the same part as it does in everyday life, and puts no sort of strain on listening. All these speaking inventions cannot fail to influence the speech of the masses of the people. We must enlist broadcast authorities and talking picture companies in the service of rational standard speech and a healthy local speech. The talking picture also needs the services of the phonetician.

At the beginning of last century English was the native speech of about 20,000,000 people. At the present time it is spoken by well over 150,000,000 people, most of them Americans. Before the year 2000 it may be the language of 500,000,000, and most of them will be outside Great Britain. At present, for historical as well as actual social and cultural reasons, the prestige of the "original" English is worldwide. Mencken shows he understands and feels the dependence of the overseas English world on England when he calls it "cultural timorousness." His own book is an excellent example of boldness in weakness, commonly called bluff. It is certain that for some time to come the English-speaking world will look and listen to England. Ours is the cultural supremacy without a shadow of doubt, but we must constantly bear in mind the young millions in the overseas English world.

To emphasise this in a striking and amusing way, let us read what Mencken says: "Because of the fact that the American form of English is now spoken by three times as many persons as all the British forms taken together, and by at least twenty times as many as the standard southern English, and because, no less, of the greater resilience it shows, and the greater capacity for grammatical and lexical growth, and the far greater tendency to accommodate itself to the linguistic needs and limitations of foreigners—because of all this it seems to me very likely that it will determine the final form of the language."

If spoken English is not to drift into a second-rate dialect, he thinks it will have to "follow in America's tracks, and this yielding has begun." And it is undoubtedly true that English popular borrowing from America grows steadily larger than American borrowings from English. American linguistic influences are stronger than English in Canada and are increasingly evident in Australia. And only the other day a Menckenesque adaptation of *The Merchant of Venice* into American was broadcast from London.

The time has arrived for an exchange of views on world English. Representatives of all the great English-speaking countries might meet in London to discuss educational and social linguistic policy. Supplementary volumes of the *Oxford Dictionary* should set forth the special vocabularies of overseas forms of English. Mr. Mencken will also promote a Harvard-Yale dictionary of the American language, with a special supplement on aframerican words.

CHAPTER IX

THE LANGUAGES OF THE WORLD

Roughly speaking, the 2,000 million human beings on this planet speak about 1,500 languages. Half of them speak seven of these languages, and three-quarters of them twenty-two languages. Above the confusion of Babel a few forms of speech are increasingly predominant, and steadily appreciating in social and cultural value with the gradual development of some sort of world civilisation.

English is the official language of some 540 millions, Chinese of 430 millions. The Chinese share a common literature, but not a common form of speech. The Mandarin, or Pekin, dialect is spoken by a comparatively small number of Chinese, English by close on 180 millions, and people speaking other languages will continue to join this gigantic society. If we add to this figure the 110 millions speaking the closely related Gothonic languages—headed by German, the biggest language group in Europe, with 80 millions—we get the astounding total of 290 millions, which, next after the Chinese family, is the biggest and most important linguistic family in the world.

The future of the West would appear to rest largely with the Anglo-Gothonic groups, and of the East with the Chinese. The 320 millions of India speak over 200 languages, but about 200 millions, or well over half, speak closely related Sanskritic dialects such as Hindi, Bengali, Marathi, etc. The Hindi-Urdu-Hindustani group are about 90 million strong, and Bengali counts about 50 millions. After the Anglo-Gothonic group, this Sanskritic group, in point of numbers, is the next biggest linguistic family in the Indo-European world. The 60 or 70 million Indians who speak Dravidian languages such as Tamil and

Telugu are outside that family, and the Indian Empire may ultimately divide into three social and linguistic areas—North, South, and Burma.

The Latin group, headed by Spanish, spoken by about 16 millions in Europe and 49 millions in America, followed by Italian with 40 millions, and French with 39 millions, totals about 165 millions. The fourth Indo-European family in point of numbers is the Slav group, totalling 160 millions, headed by Russian with 70 millions.

Excluding Chinese as a special case, only seven languages in the world are spoken by more than 50 million people, as follows:

		Millions.
1.	English	180
2.	Hindi-Urdu-Hindustani	90
3.	German	80
4.	Russian	80
5.	Spanish	65
6.	Japanese	55
7.	Bengali	50

Then come French with 45 and Italian with 41 millions. Towards the bottom of the scale are Basque with 700,000, Romany (the gipsy dialects) about 400,000, and Irish about 390,000.

Of the 120 spoken languages of Europe, 68 are used by social groups of more than 100,000 people, 37 by groups of over a million, only 19 by groups of over 5 millions. When the number of speakers falls below 100,000, the social and cultural value of the instrument from a world point of view is extremely doubtful. Below 10,000 it almost ceases to be of any value outside the most primitive forms of group action and social co-operation.

Remembering that the Chinese share a common literature, not a mutually intelligible form of speech, the English-speaking world is the nearest approach of mankind to a world society, using a worldwide form of speech. Will it grow from strength to strength? Or is it even now breaking down? Mr. Mencken has done great service to the cause of world English in his challenging book on the American language. Whatever form world English may take, we may be sure it will not be the language of Mr. Mencken's Declaration of Independence. The only common standard or ideal at present is the written form of the language, and, as Mr. Mencken implies, that is not enough. If we rely on that only, we shall end like the Chinese, sharing a common literature, but not a common form of speech. It is to be hoped that some sort of norm with a cultural prestige will be socially operative to prevent phonetic separatism. And in promoting a language "free from offence" in all quarters of the globe, it must never be forgotten that where there is no social offence there is no phonetic offence.

The spread of European civilisation and the culture of the white race has, it is true, made English a world language. But, paradoxical as it may seem, it has also multiplied the number of languages in which common contributions must eventually find expression. Purely local *patois* may be disappearing, but the post-war world is teaching, publishing (and broadcasting) in more languages than ever before in history. What is sometimes called European civilisation is becoming more and more world civilisation, and yet the languages serving this civilisation are as widely different as Spanish, Finnish, Lithuanian, Ukrainian, Arabic, Bengali, and Japanese. Written languages are increasing in number, and many more will yet be added to the already bewildering list.

In an older order of things, knowledge and culture was the privilege of a small international élite using one international language of learning. The vast masses were left in the dark. But these are days of self-determination and popular culture. And this means that every considerable speech community must be politically autonomous and its language a means of culture for the masses of its citizens. There is no better advocacy of the supreme importance of the mother tongue than our own special report on "The Teaching of English in England." So there is nothing particularly Russian or revolutionary in talk about proletarian culture. It amounts chiefly to this—that every member of any considerable speech community should have the opportunity of cultivating whatever mind he has in his mother tongue. At the present moment many petty democracies are compelled to employ languages of little world value, as instruments of their newer and more isolated social life, and as media for the education of their newly enfranchised masses. Popular education gains at the expense of higher culture, but popular enlightenment is the more important social duty in these countries. In spite of handicaps, they may achieve great things in the mathematical, chemical, and other sciences, the language of which is universal. Mathematics needs no Esperanto.

Of all the civilised peoples of the world, the Indians are faced with the most difficult cultural and linguistic problems. It is becoming increasingly clear that the "higher," but psittacistic, alien culture will have to be sacrificed to popular enlightenment in the popular languages. And the great chemists and physicists of India will soon be able to do their work in Urdu or Bengali or Tamil quite as well as in English. The superficiality characteristic of Indian education is an inheritance from the superficial Lord Macaulay. And so long as the English language is the instrument of power in the land, it will be difficult to get fathers ambitious for their sons to take their own languages seriously. But if India is to take any sort of equal place in our Commonwealth they will have to be taken seriously, and the sooner the better. It has often been said that Indian education was organised to turn out clerks. But by far the greater number of Indians "literate" in English are not even good clerks. The few brilliant men succeed in spite of the system. The increasing Indianisation of the Services will make the abandonment of English as the official language of the more or less autonomous provinces easier of accomplishment. The few Englishmen who go to provincial services can do their work in the official language of the province. English will still be necessary at Imperial Headquarters and perhaps in the central Assemblies for many years, though the mutually intelligible Hindi-Urdu-Hindustani might eventually be more satisfactory, as they are spoken by over 90 million people. That *English, even in an Indian form, can ever be more than* a second language to the future educated classes of India, it is quite impossible to believe.

The average bilingual speaker, it is true, has two strings to his bow—one rather slacker than the other. In South Africa bilingualism delays secondary education by two years. Every cultured man needs a second and perhaps a third foreign language—but he need not be bilingual. The unilingual have the advantage, and the bigger the cultural community in that language the bigger the advantage. As a first principle, pin your faith to the mother tongue.

It comes as something of a shock to realise that we English, largely responsible for the future of the only real world language, partners in a world Empire with hundreds of millions of Asiatics and Africans speaking hundreds of languages, representatives of the civilisation of all Europe in the four quarters of the globe, have up to the present made no adequate provision for the study of practical linguistic problems affecting educational technique, the spread of English as a second language in foreign countries, the cultural problems arising in India and Africa, and our future relations with the rest of the English-speaking world. Considering that the noises men make in company operate their social relations, it is not surprising that linguistic problems are to be studied at the Institute of Human Relations at Yale. If we could persuade certain men of wealth that linguistics was one of the more important social sciences, we might secure an endowment for linguistic branches of the institute in London, Geneva, Delhi, a suitable centre in Africa, and in Pekin.

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ENGLISH FOLKLORE

By A. R. WRIGHT, F.S.A.

Vice-President and Past President of The Folk-Lore Society

By these old customes the descent of nations can only be proved, where other monuments of writings are not remayning."—*Edmund Spenser*

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ENGLISH FOLKLORE

CHAPTER I

INTRODUCTION

IN 1725 Henry Bourne dedicated to those " Incouragers of Learning and Rewarders of Merit," the Mayor and Corporation of the town and county of Newcastle-upon-Tyne, where he was curate of All Saints' Church, a little book with the title *Antiquitates Vulgares,* or " The Antiquities of the Common People. Giving An Account of several of their Opinions and Ceremonies. With Proper Reflections upon each of them; shewing which may be retain'd and which ought to be laid aside." The mixture of affable condescension to the " common people," and of humble apology to their " betters " for a display of interest in what vulgar folk did and thought, makes the book delightful reading nowadays. The preface says: " I would not be thought a Reviver of old Rites and Ceremonies to the Burdening of the People, nor an Abolisher of innocent Customs, which are their Pleasures and Recreations: I aim at nothing, but a Regulation of those which are in Being among them, which they themselves are far from thinking burdensome, and abolishing such only as are sinful and wicked."

Customs which Bourne regarded with disfavour still flourish lustily, while the religious " observation " of Saturday afternoon and other practices which he applauded have long ago faded into oblivion, but interest in the matters of which he wrote with deprecation has continuously grown. This first book on English folklore was expanded by others into the well-known volumes of what is generally named, after an editor of half a century later, *Brand's "Popular Antiquities."* In *The Athenæum* of August 22, 1846, W. J. Thoms, for long secretary of the Camden Society and editor of *Notes and Queries,* proposed, under a pseudonym, the collection of "what we in England designate as Popular Antiquities, or Popular Literature . . . which would be most aptly described by a good Saxon compound Folk-Lore—the Lore of the People." The word then coined, and since deprived of its hyphen, has been adopted for the science in almost all civilized languages except the German, which uses the somewhat wider *Volkskunde* (admitting, however, the adjectival *Folklorist* or *Volklorist*).

It was not at first understood that the curious items, unconsidered "trifles, light as air," which fill the pages of Bourne and Brand and other early collections at home and abroad, were yet to the student

"confirmations strong
As proofs of holy writ,"

could tell us about their background of the folk mind and unwritten folk history, and could throw light on the beginnings of almost all other sciences. As this has come to be perceived, folklore has gained steadily in influence and scope since the early days when Andrew Lang summarized, in his *Adventures Among Books,* the lesson "of what we call folklore . . . which to many seems trivial, to many seems dull. It may become the most attractive and serious of the sciences." "The topic of folklore and the development of customs and myths is not generally attractive, to be sure. Only a few people seem interested in that spectacle, so full of surprises—the development of all human institutions, from fairy tales to democracy. In beholding it we learn how we owe all things, humanly speaking, to the people and to genius. The natural people, the folk, has supplied us, in its unconscious way, with the stuff of all our poetry, law, ritual: and genius has selected from the mass, has turned customs into codes, nursery tales into romance, myth into science, ballad into epic, magic mummery into gorgeous ritual. . . . The student of this lore can look back and see the long trodden way behind him, the winding tracks through marsh and forest and over burning sands. He sees the caves, the camps, the villages, the towns where the race has tarried, for shorter times or longer, strange places many of them, and strangely haunted, desolate dwellings and inhospitable. But the scarce visible tracks converge at last on the beaten ways, the ways to that city whither mankind is wandering."

Folklore, then, has evolved from a record of old women's chatter and rustic festivals into a science dealing with the whole of folk thought and practice. It might be defined as the science which studies the expression, in popular beliefs, institutions, practices, oral literature, and arts and pastimes, of the mental and spiritual life of the folk, the people in general, in every stage of barbarism and culture. It is at the base of all other sciences, and appears in all of them at their early stages, and often survives to a late one; thus, astronomy has evolved out of astrology, and chemistry out of alchemy. Scientific medicine is the child of medical folklore, and has retained in its pharmacopœia until quite recent years such folk-medicines as mummy-powder and pulverized toad, and still uses at the head of its prescriptions a sign which is probably in reality the astrological sign for Jupiter, as a written charm or an invocation of the protecting god.

Folklore seeks to decipher the unwritten history of the folk and the effect on it of heredity and surroundings, and to determine the origins of modern social institutions, customs, and beliefs. It distinguishes the phases of character and motives of conduct which influence national life, and it is hence a study of special importance and utility in the British Empire, the home of innumerable races the governing springs of whose conduct are vastly different from our own, and can only be ascertained by the sympathetic study of their folklore. It was the belief that sepoys were compelled to use for their cartridges grease from the cow sacred to Hindus that brought about the Indian Mutiny. The official, the missionary, the doctor, the judge, and the trader ought, therefore, all to be equipped with knowledge of the customs and beliefs of the people to whom they are sent. This applies also to those of us left at home. Folklore is the key to understanding and sympathy with the folk around us. Up to the time of the Renaissance the culture of all classes was much the same, and King Cophetua's beggar maid had little to learn on her introduction to court circles except to wear richer clothes and eat strange meats. All classes enjoyed together the mumming play and the wandering minstrel's songs and tales. Now education and outside habit have divided us into " classes " and " masses," though the man about town who turns his chair round three times to change his luck at cards is still own brother under the skin to the coster who bows to the new moon or spits on his first money of the day for luck, and the fisherman who spits on his bait or in the mouth of the first fish caught; the Society woman who visits the Bond Street clairvoyant, or palmist, or crystal-gazer has the same longing to divine the future as her East End sister for whom the greasy cards are turned over in the back street, or the leaves in the teacup are read by an old woman. The educated man should seek to appreciate the immemorial reasons at the back of the mind and actions of the unlettered, and should humble himself by examining his own irrational deeds—crack-stepping as he walks the pavement, avoiding ladders and thirteen at table, and so on.

Then, too, folklore is essential to the full enjoyment of our literature. The plays of Shakespeare are full of it, and only folklore can explain such passages as that in the soliloquy of King Henry VI. (Third Part, Act II., sc. v.):

> " O God! methinks it were a happy life
> To be no better than a homely swain;
> To sit upon a hill, as I do now,
> To carve out dials quaintly, point by point."

This is made clear by Mr. Lovett's discovery of the remarkable sundials still cut in the turf by the shepherds of the South Downs, and King Henry evidently refers to these turf dials and not to pocket dials of wood. Similarly, the *Folk-Lore of the Old Testament* has been writ at length by Sir James Frazer, and the science has decisive evidence to give as regards the antiquity of the matter of the Hebrew Scriptures.

Lastly, "the proper study of mankind is man," and folklore is such a study in which every man and every woman can play a part: the housewife can gather local cures, superstitions, ideas of luck and ill-luck, tales, sayings, and other items from villagers and townsfolk, whichever she may meet, and from servants and charwomen; the tourist, in fair weather and foul, from the road-mender, the shepherd, the innkeeper, the farmer, and the country railway porter; the book-lover and the invalid from the books they read and from their attendants and visitors. In short, all can at least collect the material which is the very life-blood of the subject, even if they leave its ultimate interpretation to the scholar in his room, far withdrawn from the noise of streets and farms. But I need not labour further the obvious utilities and advantages of the study, and the innumerable points at which it seeks aid from, and gives help to, other studies.

The science is yet young, its surprising results are not always finally defined, and its literature is voluminous. A competent library of folklore in general must include some thousands of volumes and pamphlets in many languages, and—to name only three examples of recent works in different departments of the whole—the last edition of Sir James Frazer's *Golden Bough* comprises twelve volumes and 4,513 pages, Professor Westermarck's *History of Human Marriage* three volumes and 1,795 pages, and his *Ritual and Belief in Morocco* two volumes and 1,286 pages. It is, therefore, not easy to give a connected and intelligible idea of the whole field of the science in a short space.

"Can this cockpit hold
The vasty fields of France?"

Even a review of *British* folklore alone would lead us far afield, for there is within the boundaries of our isles a patchwork of races with distinctive features in their folklores only to be explained by comparison with those of races abroad. For instance, in the Channel Islands, which were of much consequence in prehistoric times, we have in Guernsey the procession of the Chevauchée de St. Michel, which needs comparison with perambulatory ceremonials in Brittany. In our examination of the Danelagh of East England we must refer to Denmark as well as Germany, and for the Orkneys and elsewhere to Scandinavia. These British areas all differ greatly from each other in their folklore, but the differences are no less between Man and the Midlands, Galway and the Scilly Islands, or Wessex and the Highlands. Any investigation of British folklore as a whole must accordingly deal of necessity with the comparisons which are truly malodorous when compressed into small bulk.

The present purpose is much less ambitious. It is only to draw attention to the richness, perhaps by many readers hardly suspected, of the living folklore of England. It is often difficult to say when a practice or belief is quite dead and gone, many apparently destroyed by the late war having reappeared after an interval, and others being found still lingering in forgotten corners. It will be remembered that the traditional cockfighting at Easter, supposed to have been suppressed long ago, was found, in 1927, to have been still taking place for many years in the greatest secrecy in the Lake District. Our limitation will therefore be to what has been active during the last generation, but in most cases also to what has been noted after the war. This restriction will remove from our present ken such huge subjects as King Arthur and his knights, the legend of the Holy Grail, medieval romance cycles, Anglo-Saxon and Celtic magic and leechcraft, etc., which fully deserve treatment in separate volumes.

The following chapters, in consequence, contain no more than samples, taken to some extent at random so as not to favour preconceived notions, of certain classes of current English folklore. To larger works will be left questions of origins and diffusion, of animism and pre-animism, of mother-right and father-right, of vegetation souls and separable external souls (sent out in sleep, or kept by the giant or ogre or magician of folktale in a safe place), and such matters of theory and deduction. The present book will have achieved all its aims if some readers are induced to aid in the great enterprise of recording what remains of the heritage of our folk from the past and what is being created by them for the future.

CHAPTER II

BIRTH, COURTSHIP, MARRIAGE, AND DEATH

MR. STANLEY BALDWIN said in 1926: "On the day that I was born, our cook, who was a Bewdley woman, wrapped me in a blanket, and to insure I should rise in life she did the proper thing—she carried me up some stairs. But she wanted my life to be a considerable one, so she tramped up to the top of the house, and when she got there she put a chair on the middle of one of the attic rooms, got on it with me in her arms, and then held me up." In these words the Prime Minister sets out the traditional theory and practice of mothers and nurses when the baby leaves its mother's room for the first time.

But the folklore of birth begins at an even earlier stage. One of the customs which has excited most surprise and interest in students is that of the *couvade* (" hatching "), or " man-childbed," which is found to exist amongst certain South American Indians and other peoples, with whom, after a birth, the mother immediately goes about her usual duties, while the father rests in bed, is well nourished, and receives congratulatory visits from his friends. There are traces of this idea of the vicarious sufferings of the husband in this country, where in London, Cheshire, Oxfordshire, and elsewhere it is believed that in some cases the wife's ailments are borne by the husband, who endures neuralgia and " morning sickness " in place of the expectant mother.

It is thought that " a good nut year is a good baby year."

The day of birth is important as an augury of the baby's future life. Most people are familiar with some variant or other of the North Country lines:

" Monday's child is fair of face,
Tuesday's child is full of grace,
Wednesday's child is full of woe,
And Thursday's child has far to go.
Friday's child is loving and giving,
And Saturday's child has to work for a living,
But the bairn that is born on the Sabbath day
Is bonny and lucky and wise and gay."

A Cornish version is:

" Sunday's child is full of grace.
Monday's child is full in the face.
Tuesday's child is solemn and sad.
Wednesday's child is merry and glad.
Thursday's child is inclined to thieving.
Friday's child is free in giving.
Saturday's child works hard for his living."

All forms seem to agree on the good luck of the Sunday child.

The time as well as the day of birth is important, as it is generally believed that children born early in the morning have the best chance of long life; the later the birth hour, the shorter the life. In East Anglia, at least, it is thought that those born in the "chime hours" (viz., 12, 4, 8, and 12, or 3, 6, 9, and 12) are specially gifted, as they will be able to see ghosts and spirits. Children are still at times said to come from "the gooseberry bushes," in which ingenious persons have, quite unnecessarily it seems to me, seen a proof of "totemism," by which we claimed descent from the bush.

If the baby is born with a caul (membrane) covering the head, it is "extra lucky" and will not be drowned or hanged, and the caul is generally carefully preserved. In some parts it is regarded as what the folklorist terms a *life-index,* "overgiving" (weeping) when its owner is ill and withering away at death. There are many signs of the future about the baby. If it has a blue vein in its nose, it is born to be drowned. "Mole on the neck, trouble by the peck." According to a Suffolk belief, the first person to kiss the baby "tempers" it, and so you must ask leave of the mother.

The folklore of the nursery is very extensive. The Twenty-Eighth Report of the Devonshire Association (1927) tells us that "a large skim-milk cheese is prepared, of which the doctor is to eat the first slice, as soon as the infant is born." In the North a cake is prepared as well as cheese provided, and all relations must eat of it. A piece of the cake and cheese are reserved, to be given (sometimes with the addition of a silver coin to the parcel) by the nurse to the first child or person of opposite sex to the baby met on the way to the christening. Gifts must be brought for the baby by the female relatives and neighbours who call to inspect it and congratulate the mother. In Devon this visit is called the "How d'ye doing" (and by the men "Magpie Fair"), and in Somerset "Shaking out the feathers."

There are many taboos or things prohibited. The baby's hair and nails must not be cut during the first twelve months, but the nails may be bitten short.

> " Cut not its nails until a year
> Has gone; then, mother, have no fear."

If the first nail-parings are buried under an ash-tree, this will make the child a " top-singer." During the first year, also, the baby should not see itself in a mirror, but some say that this applies only to the baby being shown itself in the glass. The right hand should not be washed, but only wiped with a damp cloth, " so that he may gather riches." The baby must not be called by the name chosen before it has been baptized, and in London and many parts of the country there is a very strong objection to its being weighed, which seems analogous to the Israelitish objection to the counting of the people (2 Sam. xxiv. 10), but, if an explanation is given, it is generally that any baby put in the scales will die within the year. Curious " Christian " names of babies in the West Country are often due to " pricking the Bible "—taking the first name on a page chosen by inserting a pin between the leaves.

The first outdoor trip of the child and mother must be to church for the christening, and before that they would be very unwelcome in any house. When the child is brought for baptism, an open grave in the churchyard forecasts its death within the year, and the north door of the church ought to be left open for the escape of the Devil when driven out by baptism. If the baby does not cry when sprinkled, it is " too good to live," and will probably be reminded of its duty by a sly pinch. If two babies are baptized at the same time, the last taken by the minister will not thrive, and if a boy and a girl appear together at the font, the boy must be christened first, or through life he will be smooth-faced and the girl will have his beard.

There is a sort of faint reminiscence of the ancient " foundation sacrifice " about the notion that the first child baptized in a new font is sure to die. *The Hudders-*

field Examiner (26/11/1910) writes: "At Dalton a new church was built. A blacksmith there had seven daughters, and then a son was born. A few days before the consecration of the new church he came to the vicar, begging him to baptize his boy in the temporary church font. 'Why, Joseph, if you only wait till Thursday the child can be baptized in the new font at the opening of the new church.' 'Thank you, sir,' said the blacksmith with a wriggle, 'but, you see, it's a lad, and we should be sorry if he were to dee; na, if 't had a bin a lass, why, then, you were welcome, for 'twouldn't 'a' mattered, not a ha'penny. Lasses be ower many, an' lads ower few wi' us.'"

After the christening the child may be taken a-visiting, and at each house should receive some gift—from old-fashioned people an egg, salt, and white bread or cake or a coin, the symbolism of which is obvious. In some neighbourhoods the gift is salt or sugar, some tea, and a silver coin. Sometimes the gift is pinned in the baby's clothes till he gets home. According to a Leicestershire belief, there will soon be a new baby in the first family visited by the mother of a first-born, and each friend visited puts a florin in the baby's hand and crosses it for luck, the money not being changed and being spent on the baby's clothing. Each who sees it should hold it for a moment for luck.

We will not follow the nurse further, as she gives the baby "cinder tea" (made by quenching embers in water) for flatulence and colic, or washes it for the first time in water heated by a hot poker or by dropping in hot cinders. Nor will we rock the empty cradle, which would be expected to result in the speedy coming of a fresh occupant.

Of the growing child we only mention the consignment of a cast milk-tooth to the fire with the saying, "Good tooth—bad tooth—God send me another good tooth," and remark that the folk say that no bastard can span his own wrist.

Of the lover we say little, as the outlander from another village has no longer to "pay his footing" or to meet strong resentment from his sweetheart's fellow-villagers, and many courting customs have either dropped out of use or have lost their meaning. The exchange of locks of hair no longer implies a voluntary placing of each in the other's power, by the giving of that which would enable evil magic to be worked. Love-charms and divination and marriage omens are dealt with in later chapters. A few taboos still survive. The future should not be anticipated, and therefore an engaged couple should not be photographed together (London) nor be godparents together (? a memory of the pre-Reformation prohibition of marriage between godparents), the wedding ring and dress may only be fitted but not worn before the ceremony—some say that the ring ought not even to be tried on beforehand, and that the bride must on no account make her own dress—nor may the lovers meet on the wedding day before they reach the church. When a young German was accidentally killed in 1913 by riding with his motor-cycle over the cliff between Brighton and Rottingdean, the local opinion was that this was due to his having seen his Brighton fiancée in her wedding dress.

When we turn to the marriage itself, we find more taboos, some of them very familiar, such as:

"If you marry in Lent, you'll live to repent,"

a memory of Catholic times;

"Marry in May and you'll rue the day,"

May having been an unlucky time for the purpose ever since the days of Ovid, when it was the month of the Roman funeral rites of the Lemuralia. Even in 1928 there was a rush of weddings in the last days of April. The occasional Society marriages in May, in which unlucky green and peacocks' feathers are also flaunted, are an obvious "stunt," like the "Thirteen Club," advertising the existence of "superstition" by professing to defy it.

Easter Sunday, it may be noted here, has for a couple of centuries or so been thought a lucky wedding day by sailormen, and, on account of the holiday, Easter has been favoured also by costers and others. Hence Easter Day is now often called " Splice Sunday."

Preference is given, not only to particular seasons of the year, but also to particular weekdays as the luckiest, Wednesday being the favourite, as in the rhyme still repeated:

" Monday for health,
Tuesday for wealth,
Wednesday best day of all,
Thursday for crosses,
Friday for losses,
Saturday no luck at all."

The slight prejudice, for it is now no more, against a marriage in which the bride changes her surname but not its initial letter—

" Change the name and not the letter,
Change for the worse and not for the better "

has too long a history behind it for discussion now; it was sufficient in a London election in 1922 to injure amongst the women electors the chances of one of the candidates who had just married someone of the same initial letter.

Other taboos, active in one place or another, are that it is unlucky for the bride to hear her banns proclaimed or to see her reflection in the looking-glass when *fully* dressed for the church, and for the dress to be seen by candlelight.

The bride should put her right foot first over the threshold when leaving home for the church, and, in very familiar phrase, she should wear—

" Something old, something new,
Something borrowed, something blue."

According to the practice of one county, the old "something" is always the shoes. There are a few special local customs followed on the way to church—*e.g.*, at Rolleston (Notts) the bride may walk through the divided lower part of the trunk of a certain tree, which has somewhat a horseshoe shape, to bring luck.

The bride is lucky in her choice if the weather on her wedding day is sunny—"Happy the bride the sun shines on"—and if the clock chimes just before she enters church. To avoid the unhappiness consequent on the clock striking while she is in church, a country bride will wait outside for the chimes to sound. While she is at church the door of her home must not be shut. In one county at least it is very unlucky for a married man or woman to make part of a bridal party, but in a neighbouring county it is lucky.

A whole treatise would be needed to deal with the folklore of the existing marriage ceremony, which embodies many ancient ideas and is drawn from many sources. Even the bride's dress derives its veil from the Anglo-Saxons and its orange blossoms (replacing the earlier rosemary) from the Saracens.

After the wedding, in North Northumberland there still survives the custom of "jumping the petting stone," a name not yet clearly explained. Only in Holy Island is there an actual fixed stone, but elsewhere two upright stones are placed temporarily, with a stone across their tops, or a wooden bench put across the churchyard gate, and the newly married pair are required to leap the obstruction for luck and to give largesse to those who assist them. The old custom of stopping the way of the pair with a rope until money is paid is now practised in some villages in Yorkshire.

The rice showered before the war in ancient symbolism has now been almost everywhere replaced by the abominable and meaningless "confetti" which disfigure our roadways for so long after a wedding. Probably the change was greatly accelerated during the war by the prosecution, for wasting food, of those who still used rice.

The most interesting and yet puzzling rite of all is the throwing after the newly married of a pair of old shoes, which is universal amongst English people, but rare amongst others. It persists so strongly that shoes are even tied to honeymoon aeroplanes. Shoes seem to have been thrown at times of starting other risky undertakings, and may have been intended as a magical means of imparting vital strength, though it is true that in many different countries a pair of shoes is given by the bridegroom to the bride or her relations.

In 1920 an old custom was revived at Irnham in South Lincolnshire, when the bridesmaids carried wooden spoons, which they threw over their heads to the bridegroom as they left the church.

When the bride nears her new home, in a few districts of Yorkshire, a plate, usually with a cake on it, is thrown over her carriage or herself, and bad is the omen if the plate is not broken, or at least chipped; a slipper may be thrown instead. The bride may still be lifted over the threshold as formerly, and may take a pebble with her into her new home.

Many other rites follow the wedding. Had our subject been history and not merely living practice, much space would have been necessary to treat of the bride cake and wedding gifts. Not long ago a neighbour of mine in London poured boiling water over her doorstep after a son's wedding, "to warm the threshold for the next wedding." A pin out of the bride's veil will secure the speedy marriage of her attendant (or, in some places, prevent it), and bride cake passed through the wedding ring will bring dreams of future wedlock, if placed under the pillow, though some think it unlucky ever to remove the ring. The ring itself can rub away a sty upon the eyelid, and perhaps has shared its virtue with the ring-finger, which is still held to have special healing powers.

The present-day custom at Dunmow in Essex of awarding a flitch of bacon to any married couple who swear that neither of them has ever repented within a twelvemonth and a day was formally instituted as a local festival in 1855, subsequent to a claim rejected by the lord of the manor in 1851 on account of long dormancy of the ancient custom. It receives more notice from newspapers than any other local practice, and its revival, or, more properly, its institution under the old name, is a result of Harrison Ainsworth's novel *The Flitch of Bacon*. Very little is recorded of the actual custom of the priory of Little Dunmow and its successor, the manor, but light is thrown upon it by a similar obsolete jocular tenure imposed by John of Gaunt on Whichnor Manor in Staffordshire.

Another post-marriage custom still in existence—wife selling—is referred to in Chapter III., and is a folk method of obtaining divorce, originating in days when this was banned by the Church.

Death is threatened in advance by innumerable omens, of which a few are mentioned in Chapter VII. While the passing bell probably nowhere tolls to ask prayers for the dying, doors and windows are opened for the escape of the soul at death, and mirrors covered. Death is still expected, especially near the coast, to take place at ebb tide, the soul "going out with the tide," and departure is rendered hard by pigeon or game feathers in the pillow or bed, or by the bed being crosswise to the ceiling beams or flooring boards. Friends and neighbours and strangers flock to see the corpse, and commonly touch it, preferably on the hand, it is now said, to avoid bad dreams or to show that there is no grudge, but in earlier times to guard against haunting. Until at any rate a few years ago, near Sunderland the room in which the corpse was laid was draped all round with sheets and the door fanlight also covered. To keep the body unburied over Sunday is expected to provoke another death within three weeks, but the all-night light and the "watching" of the corpse seem to have ceased. The weather on the funeral day is held to presage the fate of the deceased, for "Blessed is the corpse that the rain rains on."

Aubrey in the seventeenth century described as known in Herefordshire a custom under which bread, a bowl of beer, and sixpence were handed over the corpse to a "sin-eater," who ate and drank and then took upon himself the sins of the deceased, and freed him from "walking." Aubrey adds that the custom was known in Wales, which has been vehemently denied. In 1924 a nurse in North Herefordshire pressed the mother of a dead child to lay a piece of bread on its breast, on the ground that this was customary, and this seems a faint reminiscence of sin-eating. The plate of salt often placed upon a corpse has, of course, another explanation.

The clothes of the dead are always believed to decay quickly. As a Northumbrian woman said of house linen which was bequeathed to her and rotted, "they fretted" for their old owner. At Heywood in Lancashire, a short time after the disappearance of an oatcake and crumpet seller, the clothes he left behind him began to rot away, and convinced his family that he was dead. This came out when he turned up after five years and was fined for desertion.

The old pomp and circumstance of the funeral amongst poor people has been greatly reduced since the war. Only occasionally is there to be seen, except in the East End of London and remote parishes, of late years the nodding black ostrich plumes upon the hearse, once so universal, and there is certainly less eating and (especially) drinking, but the wreaths have, if anything, increased in number. In a woman coster's funeral at Mitcham in October, 1924, over one hundred wreaths, some very elaborate, were piled into the grave above the coffin and were trampled in by two costers, while another took the shovel to fill in the grave himself, and, when remonstrated with by the gravedigger, said that he did it out of respect for the dead.

In 1927, according to old custom, more than one hundred men of Tiverton took short turns as voluntary bearers in a funeral where the coffin was carried over three miles and up a hill of 500 feet to a parish church.

There are still occasional echoes of the very ancient custom of providing food and other necessaries for the dead. Lights are now and then to be seen upon graves; in one case, at Nantwich in 1926, a family of three daughters had spread a table with fruit, nuts, bread, butter, and a bowl of tea beside the mummified body of their mother; in 1928 a Devonshire woman sued the Paignton Urban District Council on the ground that they wrongfully obstructed her deposit of food and flowers in a vault; and in a Yorkshire seaside town before the war chocolates and sweets were weekly placed upon a grave by the mother and sister of the dead.

It is often difficult to bring new churchyards into use, no family being willing to be the first to bury its dead in them, though the old idea that the Evil One was entitled to the first one interred is probably forgotten. One churchyard has been finally " opened " by a tramp found dead in the road, and the churchyard of Bovey Tracey is said to have been long unused until a visitor's servant was buried there. Burial to the north of the church, where the ground is looked on as unconsecrated to say the least, is still infrequent.

An old mourning custom still survives in the Newton Abbot district, and perhaps elsewhere. On the Sunday after the funeral the mourners wait in their pew till all others are gone, and do not talk on the way home. It has been suggested with likelihood that this is a survival of the notion that pollution attends on death, and that mourners should therefore hold themselves separate for a time.

CHAPTER III

BUSINESS AND WORK

In April, 1926, the coffin of a man drowned at Iffley was placed upon his own raft and punted down and across the Thames by bargemen, while the mourners walked along the towing-path. Had the corpse been carried across the lock, it would have had to pass along the ordinary path and through the tollgate of the landowner, Lincoln College, which does not seem to have been aware of the funeral. It was believed at Iffley, as it is all over the country, that the passage of a corpse along a footpath or through a tollgate would create a public right of way, although there is no foundation for this belief in statute law. The dead seem to have been carried feet foremost from ancient times, in order to prevent their seeing their home and door and so being able to find their way back as *revenants*. At the same time they were carried to burial, as a mark of honour, by the old and well-known ways and never by a new road or short-cut, even if this involved a roundabout journey. It is possible, though I do not offer it as a satisfactory explanation, that from this custom arose the complementary belief that, if the corpse did chance to travel another path, that became *ipso facto* a high road. The belief frequently crops up, and is stated to have been put forward in the High Court about 1908. When a disputed right of way over a footpath was discussed in the Godalming Council in 1910, one member inquired whether anyone knew of a corpse being carried over it, as in various northern counties this was important. He added that the moment a corpse was carried over a stile the path became an open way; owners therefore took steps to prevent such an occurrence, and in one case objection by the owner of a path leading to a burial-ground caused a corpse to be taken five miles round a mountain from an outlying farm.

However this may be, we have here an example of a whole body of folk custom and belief which is looked on as having the force of law and yet differs from statute law. Here are other examples:

Until the worry was got rid of by forming new parishes upon the growth of population, the parishes of Walthamstow and Leyton were embarrassed by a "Walthamstow strip" which ran right across Leyton from the Lea to the Snaresbrook, parallel with the southern boundary of Walthamstow. About this the story is that Leyton parish had once refused to bury a person drowned in the Lea. Walthamstow buried the body, and so became entitled to take from Leyton a strip of land, right across, as broad as the corpse-bearers could cover, walking hand in hand, with arms extended.

Disputes between parishes as to the burial of bodies still persist. In 1926 a dead girl baby was found at the water's edge at Sandgate, which parish extends only to high-water mark, below which the foreshore is still in the parish of Cheriton, two miles inland. As the body lay below the mark, the latter parish had to bear the cost of burial. The folk attach great importance to the right of burial in relation to property. At Chepstow in 1914 three parties fought for possession of the coffin of an old age pensioner, believing that to secure it would give the right to bury the corpse and hence to inherit the property of the dead.

I find the belief strong that all persons born of English parents at sea belong to the parish of Stepney. This old folk notion once found its way into the courts. A Cheshire magistrate sent a wanderer to Stepney as "born at sea," and successful legal action was taken by the London parish.

It is still believed in several districts that, according to manorial custom, if a house can be built on common land, covered, and a pot boiled therein or at least smoke sent out of its chimney, all between sunset and sunrise, the ground on which it stands becomes the property of the builder.

Local customs also exercise considerable unofficial control over marital offences. This is certainly useful, for some regard their home duties in the same way as a man who was recently bound over at Lambeth Police Court to keep the peace towards his wife, and asserted: "I assaulted my wife because I thought, as a man, I was in duty bound to do so." The ceremonies by which the folk intervenes, now as in the past, in cases of offences against morality or arising from what old Gerarde terms "woman's wilfulness in stumbling upon their hasty husbands' fists," go by different names in different localities, such as "riding the stang" (Lincs), "ran-tanning" (Notts), "skimity" or "skimmington riding" (Devon), "loo-belling" (Warwick), "tin-kittlein'" (Middlesex), and "wooset hunting" (Hants). In general a procession ends with the chanting of appropriate verses before the offender's door, to the accompaniment of "rough music" from tin cans, tongs, and other improvised instruments, and effigies are sometimes burnt or buried. For wife-beating chaff is strewn on the threshold "to show that he'd bin a-threshin'," and the woman who has beaten her man has her roof covered with straw. It is a firm conviction that these practices are perfectly legal so long as they are gone through for three successive nights and, sometimes, if the procession winds round the village church. Locally the performance may take place on three nights, then there is an interval of three nights, and so on until there have been nine celebrations in all.

When local opinion decides that a wife has been absent from home longer than is justifiable, a broom, decorated with ribbon, will be hung over the doorway, or stuck in a chimney or window, as an advertisement for a housekeeper. When the man himself puts out the broom, it is understood that he invites his friends to carouse with him during the housewife's absence, the broom, in this case, being equivalent to the bush (the old sign of an inn), the putting out of which some still vaguely think would entitle anyone on the fair day to sell beer and wine without a licence.

Another folk custom, evolved to meet a practical difficulty and to permit a legal-seeming separation from board and bed in days when Church and State alike forbad divorce, is that of wife-selling, an old foreign reproach to our nation, which is not merely a tradition utilized by Thomas Hardy in *The Mayor of Casterbridge,* but is far more common than is supposed. The sale is imagined to be legal if the price is not less than a shilling and if the woman is handed over with a halter round her neck (apparently to show that she is property to be disposed of like haltered cattle); the woman must also not be resold to a third party by her purchaser. It has been suggested that the idea of the legality of the transfer was much strengthened by the number of soldiers who returned from the wars against France over a century ago, to find that false reports of their deaths had deceived their wives into remarriage. They could not afford the great cost of legal action, and the authorities considered the cases too numerous for interference, so the position was " regularized " by a great revival of the old custom of wife-selling.

A number of examples of formal wife-transfer have been noted since the war, and a great many before it, and it seems worth while to quote samples clearly established by reports of evidence in court, and probably a very small fraction of the actual total. The wives were generally consenting parties, and some of them preserved the receipts for themselves as a proof of their " respectability."

I cannot resist taking, first of all, a pre-war case, because it happened, of all places, at Dunmow (of the Flitch of Bacon). In 1908, in a court charge that a woman had been ill-treated and turned out with her two youngest children, it came out that she had been bought for £5 from her husband in 1880 and had borne twelve children to the buyer.

In 1919 a woman coolly stated to the Tottenham magistrates that her husband had given her away to another man. In 1920 it was in evidence in the Southend Police Court that a husband had persuaded a man to sign a document in a teashop agreeing to take over the wife and look after her. In 1924, during the hearing at Newcastle-on-Tyne of a charge of persistent cruelty against a fruit salesman, his wife gave evidence that she had found in her husband's pocket a signed agreement to take over " with all appurtenances " the wife of another man. At the Devonshire Assizes in 1926, in a divorce case, mention was made of an offer to buy the wife. It will be appreciated that divorce proceedings are, to the poor, even yet incomprehensible in their technicalities, as well as costly, and that a bargain to sell, with money passing, will prevent a suit.

The Leeds magistrates in 1926 had evidence before them of the sale of a wife for £10, apparently with her full consent. In May, 1928, evidence was given before the magistrates at Blackwood (Mon.) that a wife was sold for £1 by her husband, who gave a written document to the purchaser, and, in reply to the court, said that he did not sell his baby " because it was my own flesh and blood."

The idea that a wife was leased and could be sold like other leaseholds has been sometimes expressed even more clearly by additions to a simple sale. She has been led, haltered, through a turnpike gate, and toll paid for her as for farm stock, or she has been put up for auction, haltered, in open market. In Shropshire it was thought, not so long ago, that if a husband failed to support his wife she might give back her ring and then be free to remarry.

Many other examples could be given of customary law followed by the folk. In most places they do not regard promises as more than piecrust unless these are made formal by some ceremony, such as by " wetting " with a drink or by giving " earnest money," like the " King's shilling " to an Army recruit; the " earnest " is needed " to bind the bargain " with a farm labourer at the "statty" or statutory fair at which he is hired—known as the "fessen-penny" or fasten-penny in Lincolnshire. In London, more perhaps than elsewhere, there is a belief, held without repugnance, that incurables, and especially those suffering from hydrophobia, are smothered after the King's consent has been obtained.

Nor is this all. There are distinct traces yet remaining of a social order not that of the present day or of the feudal system, but one of communal ownership of land and boats and gear under "unwritten" laws. Scholars, especially of late years, have tended to refer the basis of our English institutions more and more ultimately back to Rome, but folklore finds much surviving from other and older sources. As a summary in outline I quote, by permission, two paragraphs from Mr. F. M. Stenton's account in *The Handbook of Folklore:*

"At every period of English history, from the Anglo-Saxon Conquest to the agrarian revolution which marks the close of the eighteenth century, the basis of the national life was supplied by the village community, and the agricultural system of which it was the expression. The normal village was planted at a junction of roads, towards the centre of a wide expanse of arable land; and it was in the treatment of the arable that the features characteristic of early methods of cultivation were most clearly manifested. The rudimentary nature of current agricultural practices rendered it necessary that no portion of the arable land should bear crops for more than two years in succession; and in the larger part of England a traditional rotation was established by which, in each year, one-third of the arable lay fallow. In the following season the same tract of land would be sown with wheat; a year later it would bear peas or beans. The result of this custom was that the whole of the arable land within the village territory in due course underwent a period of fallow; and, upon the fallow, the cattle within the village were depastured according to rules determined by the common consent of the whole community.

"Each of the three large 'fields' into which the village land thus fell was divided into a vast number of strips or 'lands' of unequal area, defined either by a bulk of unploughed turf or by a vacant furrow. Within the same field single strips might well vary from half a rood to an entire acre or more. The plotting of these strips, a work accomplished in an age of incalculable antiquity, was determined by the natural drainage of the soil; the complex plan of an open field can only be understood in relation to the contour of the ground. Groups of strips naturally connected were known as furlongs, and frequently bore the name of some early settler of local prominence. Along the heads of the strips ran vacant 'lands' used for turning the plough; they were called 'headlands,' and their direction is marked, even at the present day, by the irregular course of countless English lanes."

The *Hertfordshire Ancient Monuments Inventory* shows Bygrave, Clothall, and Wallington as unenclosed parishes, with enclosed pastures immediately round the medieval vills, and, beyond these, great arable fields without hedges, and divided, as described by Mr. Stenton, by turf balks. The arable of Clothall is as much as 600 acres. It has been pointed out that, to allow these surrounding stretches of unenclosed arable, many villages on their original sites are situated a little way from the ancient main roads. The open fields system at Upton St. Leonard's (Gloucestershire) lasted until 1897.

Much of this ancient system and its customary law was to be found surviving in the manorial courts and court leets, which as real working bodies came to an end in 1926 as a consequence of the Law of Property Act of 1925. Before that date a considerable number met regularly for business, and others on special occasions—*e.g.*, the Court of Shepway of the Cinque Ports, 800 years old, met in 1923 on the site of the old Shepway Cross, near Lympne. The courts certainly embalmed practices and ideas of Anglo-Saxon date, if not still earlier, which had been first modified to fit into the feudal system in Norman times and had then been shorn, little by little, by statute law of their functions of dealing, quite apart from King and Parliament, with a wide range of local affairs. The subject is too large for detailed treatment here, and has received a good deal of attention from both serious student and curiosity-monger. The latter has pleased himself with such strange vagaries as the "Whispering Court" of Rochford Manor (Essex), which met on the Wednesday midnight after Michaelmas Day in the open air on King's Hill, no one speaking above a whisper and a piece of coal being used for recording. The "quit" or customary rents paid for a very large number of properties are often of a jocular or trivial character, which is sometimes due to changed times; one made most familiar by annual newspaper description and illustration is paid by the City of London, the home of innumerable ancient customs, which for 700 years or so has, towards the end of October, rendered to the King's Court of Exchequer (but of late to the King's Remembrancer) two faggots, a bill-hook and a hatchet (replacing two knives), six horseshoes, and sixty-one nails, with accompanying ceremonial, as quit rents for a piece of land now covered by the Law Courts, and another piece in Shropshire, the whereabouts of which is unknown.

An eminent French folklorist, M. Sébillot, published in 1895 a volume on *Légendes et curiosités des métiers,* and some collection of the folklore of industries has been made in Germany and a few other countries. But, so far as I am aware, apart from the contents of Sir James Frazer's vast and worldwide record of the ways of husbandmen and various others in *The Golden Bough,* very little has been done to collect the folklore of English occupations. A little space will therefore be spared here to draw attention to the richness of the land which may be possessed and its harvests reaped by the student.

Of agriculture, the most conservative of all in its traditions and gear, a few illustrations may suffice. The ancient custom of gleaning has almost gone, but there is a sense of grievance left behind, as the people feel that by customary law it should be perfectly legal. The claim of right to glean has twice been brought before the High Court. One action succeeded, and the appellants claimed the support of Blackstone and Hale, but it was finally held by three judges that the custom had no foundation in law, interfered with the enjoyment of property by owners, and conduced to vagrancy and other mischiefs. Flails are still used for threshing in Essex, and special forms of the notched sticks (either natural round sticks with the bark on or squared lengths of wood) known as " tallies " (which were once stored as records of the national accounts in the Chancellor's bag or " budget ") are employed for counting sheep and lambs on the South Downs, or for quantities of hops. Another custom supposed by many to be extinct is far from being so, parish land being let in many cases by candle auction. In one form, an inch of candle is cut off, and the meadow is let to the last bidder as the candle inch flickers out, which in one case in 1927 took an hour and a quarter. A field of seven acres was let in 1919 in this way at Chard (Somerset), and the parish field at Grimston, near Melton Mowbray, in 1926, but only half an inch was used to let for twenty-one years the " Church Ale " land in 1925 at Chedzoy, near Bridgwater. Another method adopted is to light a wax candle and thrust in a pin one inch below the flame, the bidding ending when the pin drops out. This seems to be the more usual form of the auction, as I have notes of it within the last few years at Aldermaston near Reading, Broadway in Dorset, Butterwick near Boston, and various places in Berks, Devon, Somerset, etc. A modernization is followed at Asfordby (Leicestershire), where the parish field was let in 1926 " by watch," the bidding being stopped at the end of three minutes.

The annual hiring-times of farm servants differ according to the county—*e.g.*, Michaelmas in Hants, May and

Martinmas in Derbyshire, Yorkshire, and the north of England, and Christmas in North-East Shropshire, Cheshire, and West Staffordshire. In North Northumberland working stewards and shepherds are engaged at the new year, but do not enter on their work until "May Day," which means May 12 (Old May Day)—one of many instances of adherence to the Julian Calendar, which was officially superseded in 1752. No notice is taken in this district of May 1, May Day in our present calendar, and the men, women and girl workers are engaged at annual hirings in the first week of March. Many farming festivals have disappeared within living memory. At sheep-shearing there is no longer a gathering of the neighbourhood to assist, and the work is done by machine, but the old social institution is often remembered by giving a glass of wine or mug of cider to all visitors "to drink to the health of the flock." I have been told that it is not yet wholly forgotten that a lock of wool should be put in a shepherd's coffin, of which the purpose seems to have been to supply him with proof on Judgment Day of his calling, and thus to excuse his remissness in attendance at church.

Some folklore of the dairy industry was noted by the medical officer of health in a report on the Freebridge Lynn Rural District (West Norfolk), quoted in *The Eastern Daily Press* about twenty years ago. Throughout the whole district, he says, it was believed that, unless the hands of the milker were washed both before and after milking, the cow would become dry. Milk must always be kept quiet, and so the dairy door was never slammed. If any milk were spilt upon the cow's legs, in milking, the cow would become dry. When a cow was milked, the first few drops were used to moisten the palm of the milker's hand, for it was not well to milk "with a dry hand" (a piece of sympathetic magic). Before milking, a few drops were milked upon the ground, professedly to wash out the duct, and the last drops in the pail were also thrown away. However matted a cow's tail might be, it must never be cut with a sharp instrument, as the cow would then abort her calf.

In occupations involving uncertainty of outlook, naturally much attention is given to matters thought likely to give protection and luck. The sailor thinks it the worst of luck to have a coffin or corpse on board, and, perhaps from association with the burial service and black clothes, a parson is almost as unwelcome. "Here's a parson; he hasn't paid for his washing," was told to me on shipboard as a well-known sailors' saying, with a harrowing account of the " dirty weather " on an earlier voyage with a certain bishop on board. Whistling, or driving a nail into the mast, brings wind. It is a common notion that ships with a name ending in " a " (such as *Lusitania*), or whose name has been changed, are doomed thereby to ill-luck (probably reinforced in the Navy by the loss of the *Cobra* and *Victoria,* to which both objections applied). There is also a belief that a sailing ship without a figure-head cannot sink; after repeated failures to sink the schooner *Amy* off Portland to provide a scene for a film dealing with " Q " mystery ships in the recent war, she was thought by old salts to be hoodooed, and her figure-head was restored before she finally went under in March, 1928. Various animals bring bad weather with them on board, and pigs must on no account be named on a tug. The drowning of the ship's cat makes disaster certain, and she " carries a gale in her tail." " Rats leave a sinking ship " has become a general proverb. Disaster is coming if anything unnatural happens, such as the appearance of a land bird on board at sea. These beliefs are not without their serious practical effects. In 1923 a sailor was charged at Grimsby with refusing to join his ship, which was lying waiting in the river, and he explained that it was bad luck to join after the ship had sailed. In April, 1927, the bodies of a Norwegian captain and four sailors were found on the shore near Bude, and could not have been in the water long. According to a newspaper report, a farmer's wife living near the beach thought that she heard moans during the night, but made no search as she was satisfied with the suggestion that it must be the wind or the "Devil's Sailor." The latter is said to be seen at full moon, and to haunt a cave in which he was chained by the Devil, who was angered by the man's efforts to escape and suicide; the Devil promised him freedom when he had made a rope from sand.

Fishermen have naturally a great regard for weather omens and for lucky and unlucky signs. They believe that the moon governs the weather, and in Northumberland bad weather is expected if the new moon falls on Friday. A seagull flying against the window brings warning of danger to one of the family at sea. On one part of the East Coast, fishermen's wives will not wind wool after sundown, lest, if they do, they will soon be making their husband's shrouds. Unlucky boats, from which some of the crew have been lost, will even be burnt. Rabbits must not be named on board, nor a hatch cover turned upside down, and in Northumberland the name "Graham" must not be spoken. To insure a good catch, the sign of the cross is made over the nets before fishing. Tea-leaves are "read" with special meanings—*e.g.*, an "oar" warns to be cautious when embarking, a "lily" is good fortune, and so on.

The mining industry has its own peculiar customs. In 1920, when there was a strike of miners in Derbyshire, the men prospected amongst the derelict lead-mines, of which one estimate says there are 4,000 in ten square miles of the Matlock district. They found a workable vein in an old shaft abandoned probably for three centuries near Oaker Hill at Wensley, and in accordance with customary law the ownerless Barley Close mine was handed over to the finders by the Barmaster. Anyone can claim an unworked mine and, by paying a fee of not more than 25s., can become its owner. As the price of lead had risen greatly, many claims of this kind were made—*e.g.*, to the Plackett mines at Winster and to the Wraith mines at Elton. In February, 1920, an interesting further point was raised of mining custom. A miner had acquired, in the way described above, the Portoway mines at Winster, and claimed access by roadway, which was denied by the owner of the surface soil. Ancient custom allows that, when a mine is in actual working, land can be taken, without payment, for a roadway to the nearest watercourse for washing the ore and to the nearest King's highway for its transport. The King's Barmaster for the High Peak Hundred, with two grand jurymen, on the miner's appeal, formally handed over the right of way sought. The Barmaster, with a grand juryman on either side with his arms fully outstretched, paced over the ground, and a road was staked out between the lines traced by the outside finger-tips of the grand jurymen.

Besides their codes of customary laws, the miners have much other folklore, and the older generation still believes in the " knockers " and other supernatural beings haunting the mines (see Chapter VI.). Great regard is paid to omens, and many things are prohibited for fear of ill-luck following them. Thus, in 1920 the Halesowen Colliery near Birmingham was " standing " for two days, and large ironworks dependent on it were closed for three days, as the miners ceased work after one had been killed, for fear that ill-luck would follow the non-payment of this mark of respect. The collier, and not in all cases the older man only, will turn back if on his way to work he meets a woman. Although cleanly enough otherwise, he refuses to wash his back more than, say, once a week, as he thinks that it will have a weakening effect.

The most curious recent mining " custom " I have encountered is in the report of a local newspaper in 1911, when seventeen colliery horse-drivers were summoned for neglect of work by the Stourbridge Glazed Brick and Fireclay Company, the owners of the Corbyn's Hall Colliery, Pensnett, near Dudley. In 1910 the colliery became very wet owing to the heavy rains, and the manager raised the men's wages 4d. a day on their complaint. On February 23, 1911, however, the men refused to go down the shaft. The manager gave evidence that he saw them, and that they resorted to an old custom and threw a brick in the air. If it came down again they would have a holiday, but if it remained in the air they would go to work. The brick seems to have fallen, and the court ordered the men to pay the Company the amount claimed and costs.

Much might have been added concerning the special folklore of other risky industries and of the gambler, burglar, boxer, sportsman, and soldier, and of the stage. The last named has many interesting taboos. The last lines (or "tag") of a piece must not be spoken at rehearsal, luggage must go in a dress-basket and not in a trunk with nails, real flowers must not be used nor an umbrella opened on the stage, green and black ought never to be worn, whistling in a dressing-room is improper, and to quote or perform *Macbeth* is very unlucky.

But the less dangerous or uncertain trades have also plenty of folklore, and it is to be noted that industries of recent date are as well provided as those of ancient date, and even, as in the case of printing with its "chapel," have evolved a trade guild. If we take the comparatively recent art of dressmaking, we find that to jump over a dress when finished is a certain means of preventing its return for alterations. Dressmakers will not fit with black pins, nor tack with green thread. Care is taken not to bring bad luck on a bride by staining the bridal dress with blood from a pricked finger. "Unpick on Monday and you unpick all the week." It is a sign of the worker's own wedding coming soon if she accidentally sews one of her own hairs into a garment of a trousseau. If by chance, in trying on, a new garment is pinned to the customer's other clothes, it is reckoned that each pin so attached means that a year will elapse before her marriage.

In tailoring, the cloth left over from the making of a suit is a perquisite, and is spoken of as "cabbage." In 1921 it was stated in the Clerkenwell County Court that it was the custom in the trade for a workman to hand over his scissors to his employer when he was engaged, as a guarantee that he would turn up at the time appointed.

To close the chapter, we will mention what looks like a survival in what was once the serious trade of archery. At the annual archery meeting of the Woodmen of Arden (held in 1927) at Meriden in Warwickshire, the marker signals a bull by dancing a jig, and a " clout " in the very centre by lying on his back and waving his legs.

CHAPTER IV

CALENDAR CUSTOMS

"YE Merrie England of ye Olden Time " of stage and story, with its folk chiefly engaged in dancing around the maypole on the village green or dragging the yule log into the baronial hall, according to the season of the year, is the creation of the romanticists and poets and painters of the nineteenth century, and is, in truth, an incomplete and even misleading picture of the past. The man-in-the-street knows something about " going a-maying " in " the merry month of May," and is pleased " to remember the fifth of November "; but he knows little of the dreary background, of town and country life alike, in medieval and early England, which made people plunge boisterously into the celebrations of the festivals fixed by particular days and seasons in the calendar. The roadways, wellnigh impassable in winter, made communication difficult between village and village, while the nights were ill-lighted and haunted by fearsome bogles, ghosts, and witches. The communal farming already mentioned laid down a monotonous trivial round and daily task of life. The food was not varied as it is to-day. Hay was not made and stored, and cattle and pigs were slaughtered at the beginning of winter, wherein scurvy and other ailments arose from a diet largely of salted meat. Little wonder, then, if the annual fair, generally held on the Sunday after the day of the saint to whom the village church was dedicated, was a time of reaction and merry-making, and the other calendar festivals, both the twelve days of Christmastide and the other greater festivals, and the smaller ones of souling, catterning, clementing, Thomasing, and the rest, were eagerly looked forward to and anxiously enjoyed. The greater district fairs, too, had an industrial importance beyond that of being, as to a less extent they are now, occasions of hiring servants, and markets for disposing of cattle, sheep, and pigs, for at them were bought the stocks of provisions and necessaries for the long months of winter and foul weather.

But these once general festivals have very greatly diminished in popularity since the first quarter of the nineteenth century. Indeed, with the accelerated disuse which set in with the war, some are quite or almost gone. Guy Fawkes' day, in London especially, has begun to be merely one night of several—stretching last year to nearly a fortnight—on which are let off fireworks, no longer home made, and the " guys " are becoming meaningless effigies, of no one in particular, paraded about as an excuse for begging money, and in most cases without subsequent bonfires for their burning. No branch of folklore has decayed so much in recent years as calendar customs. Those familiar to me in my own boyhood—the local fair where I spent the pennies painfully saved up for a twelvemonth, the making of " April fools " by inviting attention to things which were not there, by imaginary errands, or other hoaxes before noon on the first of April, the demand to " show your rump " (spray of oak-leaves) on Royal Oak Day (May 29), the mutual sharing of Spanish-juice (liquorice) water on Palm Sunday (the water coming from certain springs), and other rites in my natal district—"all, all are gone, the old familiar faces."

It ought not to be inferred from the above that the disappearance has been complete in every district, nor that many practices supposed by the writer to be extinct are not yet lingering in corners unknown to him, or have revived in favouring local circumstances. While festivals once widespread have faded, others appealing to local pride have persisted in full vigour or been restored to life, and a few new ones seem possible candidates for the succession to old ones. Instances will be given presently. Most details of the greater festivals are set out in the easily accessible volumes of Brand, Hone, and Chambers, and what follows should be understood to be no more than a sample selection from bulky notes of customs which have been in use within the last few years.

"Firstfooting" has no longer its ancient importance, but in many neighbourhoods, mainly in the North, the luck of the coming year is still held to depend on the first to enter the house after midnight on December 31. A woman in this, as in so many other matters, brings ill-luck, but there is the oddest difference between places close together as to whether the man who enters should be dark or fair, towns ten miles apart in Lancashire having these opposites. A careful collection and mapping of these variations would give interesting results. The firstfooter should generally, in the Midlands, be a bachelor. He must bring something in with him, often a lump of coal or something dark if he is himself dark, but properly salt, coal, bread, and a coin. Sometimes he is preferred to have the high arched instep under which water can flow, which (as noted in chapter nine of Charlotte Brontë's *Shirley*) is the mark that there has been no slave in the family for three centuries. The Christian name of the incomer is significant, as, he being the first person of the opposite sex seen in the new year, it is the same as that of the future husband of the lass who lets him in. In some parts of Yorkshire the "lucky bird" lets Christmas in. What is done on New Year's Day will be done all the year, and there was an instance in 1926 in the West Country of refusal to work on that day lest it should result in hard work all the year long. On this day also in Devon, for luck all the year, soup is made with whole peas, as split peas would split the luck.

On Plough Monday, the first Monday after Old Christmas Day (January 6), in a few places farm labourers decorate themselves with ribbons and mask or blacken their faces; they sing and dance, for money and beer, in houses to which they are admitted, but seem no longer to carry with them a plough wherewith to plough up the doorsteps of those who refuse to give. Rarely a mumming play is performed by them. One of the rhymes still chanted by boys in Bucks on this day, to an accompaniment on tin trays, sticks, etc., sets out the meaning:

> "O, O, E, I, O,
> Up with the shovel and the hoe,
> Down with the fiddle and the drum.
> No more work for poor old neddy,
> Now that the ploughing's done."

Valentine's Day (February 14) has now little observance, but it is believed that birds then mate. The children of Chipping Norton (Oxon) as late as 1923 serenaded the local tradespeople with valentine doggerel, and scrambled for their gifts. "Valentine, bishop and martyr," was omitted from the calendar of the Church of England as revised in 1927, and was not restored thereto on further revision, as were SS. Crispin and Crispinian, St. Denys, St. Nicholas (Santa Claus), and St. Catherine of Alexandria (of the wheel), perhaps mythical but richly symbolic figures. The costly gifts of the days of Samuel Pepys, when valentines were assigned by drawing lots, were succeeded early in the nineteenth century by hand-paintings and verses framed in their boxes by paper lace, the fashion for which culminated about sixty years ago and was probably ended by the vulgar "long valentine" with coarse pictures and abusive text which filled shops in poor neighbourhoods. In the last two years an attempt has been made to revive valentines and valentine gifts, with some success.

Shrove Tuesday has its ancient pancakes, originally a means of using up all dripping and lard before Lent. In a few villages the first batch of hot pancakes is thrown into the chicken run, to insure a future abundance of eggs. At Olney (Bucks), when the " pancake bells " are rung, the womenfolks of the ringers race to the church with pancakes for their men. The pancake bell is rung in many places. In 1928 the Prince of Wales started the annual Shrove Tuesday rough-and-tumble football contest at Ashbourne (Derby) between Uptowners and Downtowners, the water goals being three miles apart. Such struggles on this day were once very common, and survive in the streets of Atherstone (Warwick) and at Alnwick and Doncaster. From the accompaniments in other countries it seems to be the remains of a rite for promoting fertility. The annual scramble in Westminster School for a pancake tossed over a screen by the cook is a familiar newspaper item.

On the day following, " Fritter Wednesday," fritters (or small pancakes with apples or currants) are made in the North.

" Hallaton bottle-kicking " is a Leicestershire contest at the beginning of April somewhat like the football mentioned above. After two veal-and-bacon pies have been scrambled for, the villagers of Hallaton and Melbourne strive to get two large brass-bound wooden beer bottles over a stream which is the common boundary of the two parishes. The victors, it is said, had once charge of a charity now lost, and the expenses are a burden on land known as Harecrop Leys. (The pies were formerly of hares.)

Mid-Lent Sunday (the fourth) was the day on which offerings were made at the high altar of the mother-church, and, derived from this, visits were, and are, paid to parents on this "Mothering Sunday." While special "mothering cakes" are made for gifts on this day, its origin is yet so forgotten in some quarters that a prominent English weekly permitted itself recently to write that the idea of a "Mother's Day" originated in America twenty years ago, and had been "adopted" in this country! "Mothering Sunday" is also "Simnel Sunday," when simnel cakes are eaten in Lancashire.

Palm Sunday in the heavy woollen district of the West Riding is "Toffee Sunday," when even old people munch that dainty; and elsewhere it is "Fig Sunday." "Palms" (willow or yew) are worn in many country places.

Good Friday is a day on which many things are proper to be done, from playing marbles in a Sussex village to the performance, by boys with swords of lath and decorated coats and pasteboard hats, in a part of the West Riding, of the old folk play *St. George and the Dragon, or The Peace Egg*. In the West Country, clothes must on no account be washed, nor a child weaned, nor finger-nails cut, but everywhere it is the lucky day for planting potatoes—"You never get any good potatoes unless you plant on Good Friday"—and for other garden work. Hot cross buns are, of course, as popular as ever.

Easter is the ancient spring festival well observed, though the significant customs of the men "heaving" or lifting the women on Easter Monday, and the women the men on the following day, are only observed as an occasional frolic. The filling of artificial Easter eggs with gifts is no older than 1870; the first case of toys received from Paris after the raising of its siege was a collection of Easter eggs, and the costliness of the contents has grown until in 1924 one freak Easter egg contained jewels to the value of £7,000. The egg and hare imported by fashion have not killed the home-dyed folk egg and the sports of egg-jarping and egg-rolling in the North. In the former, hard-boiled eggs are struck against each other, and the owner of the victor annexes the cracked egg, a custom widespread over Europe. In the latter, dyed eggs are raced by rolling them down slopes. At Avenham Park, Preston, 50,000 people gathered on Easter Monday, 1927, in order to fight battles and run races with eggs.

Easter Sunday is "Sugar-Cup Sunday" in Derbyshire, because the children go a round of wells and streams with cups and sugar, and wish while they drink sugar-water. It is universally thought that it is necessary to wear something new on this day, or very bad luck will follow. It is the occasion of many local celebrations, such as the distribution of memorial "rolls" (biscuits) and bread and cheese under the will of the Biddenden maids (Kent), chiefly curious for the local story which makes the sisters Siamese twins because they are so represented on the biscuits which are given away—a tradition, some say, with no other basis than the way in which an early baker tried to picture two damsels side by side on one narrow biscuit.

Following the second Sunday after Easter comes Hocktide, the Tuesday of which is "kissing day" at Hungerford (Berks), one of the last two unreformed boroughs, with a constitution presenting many ancient features. It appoints, in place of mayor and corporation, a constable, port reeve, bailiff, and other officials, including two tithing-men or tutti (pretty) men. On Hockney Day (Hock Tuesday) the tutti men, each carrying a pole decorated with a bouquet and tipped with an orange, and followed by a man loaded with oranges, perambulate the place, claiming a "head-penny" from every man and a kiss from every woman. An orange is offered to every person kissed, from the poles, and at the evening dinner the toast is drunk, in solemn silence, of John of Gaunt, who, as engraved on the ancient horn of summons, "did give and grant the Royal fishing in Hungerford town." Hocking means "lifting," and Hocktide must at some former period have had "lifting" customs like those at Easter.

May Day is still one of the great annual festivals, though now in our towns it is rather "Labour Day" and the time for cart-horse parades and decoration than for the ancient rites and sports, which have become child's play rather than a national celebration. In the villages and some small towns little girls carry round "garlands," usually in the shape of a hoop or of two hoops fixed crosswise, and often with a doll suspended in the middle; they sing May Day songs. May queens, in several cases instituted through the influence of John Ruskin, are to be found here and there. A very few maypoles survive, and some have been erected in recent years. Even gathering May dew for the complexion is not unknown. Some little of ancient rites is probably embodied in the proceedings on "Garland Day" (May 29) at Castleton (Derby). Here an enormous floral crown is carried in procession on the shoulders of a mounted man, followed by dancers and a "Bessy" (man in woman's dress) of the kind usual in Morris dances; the garland is hoisted on the church tower. The whole seems to be a transfer in the seventeenth century from May Day to Restoration Day.

Rogationtide, the week including Ascension Day, has seen a considerable revival since the war both of religious services to bless crops, flocks, and fishing, and of the ceremonies of "beating the bounds" of parishes, which served formerly the twofold purpose of blessing the land (as indicated by the "Gospel oaks" upon the boundaries, where Scripture passages were read aloud) and of keeping in memory the true boundaries and discovering encroachments and obstructions. Such annual action was particularly necessary where the ancient communal ownership and open fields persisted. In 1924, in the riding of the bounds by the inhabitants of Longhorseley (Northumberland), a fence put up on enclosed common ground was pulled down. Examples of revival of the custom of beating the bounds, which has continued without break in a large number of places, are: East Barnet in 1925, after a gap of sixty odd years; Datchet (Bucks) in 1925, after twenty-one years; St. Clement's parish, Hastings, in 1923, seven years; Bexhill in 1925, after sixteen years. Perhaps the most picturesque survival to-day is at Hunmanby, on the Yorkshire coast, where, to define the limits of the manor, after three casts of a trawl net a man rides into the sea as far as possible and then casts a javelin out to sea.

The boundaries are impressed on the minds of either children or adults by " bumping " or " dunting " them on salient points such as boundary stones, or by supplying the children with peeled wands wherewith to strike the landmarks. At Poole Harbour in 1925 the boys were whipped with bootlaces and the girls pricked with hairpins (apparently still surviving at Poole).

On Ascension Day the " dressing " takes place of the five wells at Tissington and of the wells at some other places in Derbyshire. The pictures and designs formed on clay-covered boards with a mosaic of flowers, leaves, and berries are very pretty, but the claim to great antiquity of the custom is doubtful.

Enough has been written to direct attention to the variety and number of the folk customs and beliefs clustering round the present-day calendar. The calendar itself would repay our study, with its double system of movable feasts all dependent on the " ecclesiastical " (and not astronomical) moon of Easter, and fixed feasts based on a solar calendar. It would be interesting, also, to examine why some customs are still hale and hearty and others disappearing; for example, clementing (the celebration of the Feast of St. Clement, or Old Clem, the blacksmiths' patron) has failed with the dying out of the blacksmith's craft itself from lack of apprentices.

The long procession of other festivals—to name only Royal Oak Day, Whitsuntide, Midsummer Eve and Day, Harvest, the Days of SS. Barnabas, Swithin, James, Clement, Catherine, and Thomas and others, Michaelmas, All Hallowe'en, Fifth of November with its burning of the old year, Martinmas, Holy Innocents' Day (the unluckiest of all the year), with other ancient calendar survivals such as the election of mock mayors and a boy bishop, and the crowning winter festival of Christmas—would need a whole volume merely to outline their living folklore. I cannot, however, resist mention of one rather pathetic survival in London about the end of July—viz., "Grotto Day" (or, rather, two or three days). In 1927 the boys' "grottoes," for which they begged "only a ha'penny," had sunk in South London to little enclosures outlined on the pavement with moss from garden walls, and generally having a cross of moss within them. Not many years ago they were substantial erections with roofs, and now and then had a lighted candle inside and a few oyster-shells outside. July 25 is the day of St. James of Compostella, and these little structures, with their oyster-shells to simulate pilgrims' scallop-shells, are the last degenerate descendants of shrines put up in London, some seven or eight centuries ago, for the comfort of those who were too poor to take the long road of pilgrimage to the popular saint's shrine in Spain.

Another instance of long endurance of old custom is in the fixing of the dates of very many village fairs by the "Old Style" Julian Calendar, which was officially abandoned in 1753, although, by the way, the nation's accounts were made up, in 1928 as in other years, to April 5—viz., Old Lady Day—the year being reckoned from the Annunciation.

Revivals of old customs have been of late remarkably numerous, and the collector of folklore ought to record carefully the dates of all such revivals, to prevent later inquirers from being misled into supposing that every detail is a copy of ancient practice, and so being drawn to false conclusions. Sometimes the revival is an utter travesty. The following are revivals during the last three or four years: "Blidworth rocking," the rocking of the last baptized infant by the vicar in an ancient cradle, bedecked with flowers and surrounded by candles, before the altar at Blidworth, near Mansfield, in February, 1923, and following years, after an interval of at least a century, the custom being alleged to go back to the thirteenth century; "clipping the church" at Wing (Bucks) in 1925; well-dressing at Buxton in 1925, and elsewhere a little earlier; the village fair at Denham, near Uxbridge, in

1925, after fifty years; the *lambale* at Kirtlington (Oxon) in 1925; "landing the pie" by Thames watermen at Eel Pie Island at Twickenham in 1923, after a lapse of over a century; and the old Swainmote dinner at Mansfield (Notts), a boar's head being brought in amidst garlanded and dancing girls—the dinner being once annual in connection with Sherwood Forest.

When the origins of some recent customs are forgotten, they may conceivably be regarded as ancient folk practices, and be the basis of theories of the future. The collector should therefore note their dates. For example, the hamlet of Week in Westmorland suffered very severely from a plague of wasps in 1841. Since then it has had an annual procession to a memorial stone on the moor, and then, after a short service, a concerted attack is made on wasps and wasp nests with all manner of weapons, from insect powder onwards. (Here is a germ for a theory of a wasp totem, ceremonially sacrificed by its people once a year.) Mitcham Fair (Surrey) might, with better luck, in time have established itself and become traditional; it used to be opened with a huge gilt key and a ceremony, alleging origin under Queen Elizabeth, although it had no charter and no history, but the ceremony was stopped, despite the protests of the showmen, in 1924. Six shillings "coredy money" is paid four times a year (in the first weeks of February, May, August, and November) to thirty-four poor women at Lambeth Palace; £2 each paid, under a will of 1711, to boys who recite the Lord's Prayer and some other passages with their hands on a tomb at Wotton, near Dorking (typical of many like practices, the origin of which is now unknown).

Lastly, there seems to be a tendency to supplant decaying observances, such as Mothering Sunday, by artificial "days" popularized by newspapers, such as Daffodil Sunday, Bloom Sunday (for the cherry orchards), Bluebell Sunday, Chestnut Sunday, Blackberry Sunday, Primrose Day, Empire Day, Rose Day, and Poppy Day.

CHAPTER V

ANIMALS, PLANTS, AND INANIMATE OBJECTS

When a country has been so long under civilizing influences as our own, one can hardly expect in its present-day folklore more than traces of the attitude of uncivilized races towards the animal, vegetable, and mineral kingdoms. The savage suspects life and power in them all. He worships some, and admits the equality, or even superiority, of many an individual animal, or tree, or stone, and is proud to count one of them his ancestor, relation, or protector. To him the chimpanzee is a man who is artful enough to avoid work by refusing to talk. But we must be cautious in applying savage ideas as explanations of our own folklore. The peacock is quite a modern figure in our long ages, and our dread of peacocks' feathers, especially on the stage, may not derive from an immemorial past. We need not suppose our distant forefathers to have been cat-worshippers, and to have seen the symbol of a moon goddess in waxing and waning feline eyes, because the cat walking her lone way is supposed to tell us of coming weather by turning her back to the fire or washing behind her ears, to point the direction of a coming wind with a slanted hind leg as she licks herself, to scratch " to bring down the rain," or, if she is black, to bring us luck when she enters our home or crosses our path. The cat, also, is comparatively a newcomer, although My Lord Mayor was probably much mistaken when he asserted in 1927 that she was unknown in England until two centuries after the days of Dick Whittington. Yet she has gathered much folklore around her. We drown kittens born in May in the West Country as likely to bring in snakes, and expect great good fortune when our cat sneezes the day before a wedding, but we do not require to fetch the meaning from far-off times and places. When the owl and squirrel are hunted by rustic crowds, it may be only to assert a customary right of way or common, and not a sacrificial rite.

When, however, the defendant in a cockfighting case at Devizes in 1921 said, "I always let them (the cocks) fight until they are killed, and the one that is killed I eat, and it puts the sporting spirit into me," we find the same impulse which makes the savage eat those portions of his enemy's corpse wherein he imagines his bravery to reside.

Totemism—*i.e.*, the belief of a social group of mankind that it is of one family with some particular class of animals, plants, or inanimate objects—is regarded by some as a stage through which practically all humanity must have passed, and it has been suggested that in England various animal surnames—*e.g.*, Hogge, Lyon, Wolf, Catt, Salmon, Fox, Swann, Woodcock, and Partridge—and plant names—*e.g.*, Primrose, Appletree, Rose, Birch, and Beech—suggest ancient totem clans. It has also been urged that the belief that witches can turn into hares and other animals smells of totemism. (To kill a hare, by the way, in some places is expected to bring evil, probably because the animal might be a transformed human being.) But surnames are of comparatively late date, and no clear case has been made out for English totemism; so far at least as to-day's folklore is concerned, all can be reasonably understood without praying totemism in aid.

Many current ideas about animals are due to faulty observation or insufficient knowledge. It is not surprising that horsehairs falling into the water are believed to grow into eels and water-snakes, or that live toads or frogs found in rock cavities without any visible outlet are believed to have been enclosed there when the rock itself was formed, and that decisive scientific experiments have failed to prove to the folk mind the impossibility of the survival of the batrachian for any great length of time. So vehement is the opinion that vipers swallow their young on the approach of danger, and so often has the phenomenon been said to be observed, without the production of the refugees *in situ*, that I must leave to zoologists the question whether there is here folklore or fact. The common report that hedgehogs suck cows must go into the same category.

Animals, the folk think, know many things that we do not, and are especially clever in foreseeing the coming weather. Here are some Suffolk sayings: "If you hear the sheep at night, rain is coming." "When cows lie down all facing the same way, rain is coming." "When sparrows chirrup, sure to rain." "If the rooks build high in a tree, it is a sign of a hard winter" (or, elsewhere, a hot summer). In Northumberland, if a sheep faces the wind, it is a sign of good weather.

The shrew mouse will cause disease if you let it run over you, and the newt is feared, as much as ever, as dangerously venomous, and is one of the principal "animals in people's insides," said to result from the presence of their eggs or young in drinking water or food. A tale was in general circulation in 1924 of a girl who had swallowed an octopus egg, and died from the dire effects of the creature's development; readers of the newspaper report wrote that it was perfectly true and had happened in a number of different and named districts. The tale was still running in 1926.

The living folklore of birds is extensive. The pigeon, so abundant in London, is a very unlucky bird. It gives a death warning if it settles on a house. A charwoman recently saw one flying about in my garden, and said: "Send it off! If it comes down I'll wring its neck! One settled on the washhouse where I was working, and the woman's old man died." The bad luck applies to the ringdove also. Even pigeon feathers are unlucky, and in Lancashire their presence in a bed or pillow will make death a lingering one. The favoured robin becomes a death omen if it approaches the window. Fowls crowding together under a bush prognosticate a quarrel, and—

" A whistling maid and a crowing hen
Are neither good for God nor men,"

but, to prevent calamity, the unfortunate imitator of the cock generally comes to an immediate and untimely end.

The luck of encountering a solitary magpie is even worse, but can be warded off by bowing or spitting. Every country dweller knows the saying " One for sorrow, two for mirth; three for a wedding, four for a birth," etc. The many customs connected with the cuckoo—turning money over when one first hears it, counting its notes for the number of future years of bachelorhood or maidenhood, etc.—are too familiar for repetition, and so are those of the cock and of the lady-bird or cowlady (no bird but a beetle, whom we implore to fly home because her house is on fire, and whose spots foretell the coming season), and the feared death's-head moth. To kill a beetle will cause rain, and the " money spider " can only be injured to one's own hurt.

The folklore of eggs would fill many paragraphs. An odd number must be set under a hen (often, curiously, the otherwise unlucky number thirteen). Of the many people who break the bottom of an eggshell after the contents have been eaten, few, perhaps, remember that this was originally to prevent its use by witches.

The most important example of respect for animals is our attitude towards bees. Where the Isle of Wight disease has not emptied our hives, it is usual to " tell the bees " at least of any death in the family; a little crape bow will often be fastened on the hives so as to put them properly into mourning for the head of the family, and a little funeral cake may be crumbled on the alighting board. If not told, the bees themselves will die, and many recent instances are given. In some neighbourhoods, in the North, Midlands, and South, the bees must be told personally by the heir for whom they must work in future. As the bees may swarm or leave their hives quite unexpectedly, it is thought that they are easily offended if not treated always as members of the family, and so they are at times told all important family news. At St. Briavel's (Glos), twenty-five years ago, at least, the method of telling the bees of a death was to lift the hives at the moment when the corpse was lifted for its departure. If a young swarm returns to the hive, or a swarm settles on dead wood, it is a sure sign of death, and the coming of a stranger is announced in the house by the coming of a bumble bee. When a hive swarms, you may still hear the swarm " rung " or " banged " with a door-key and shovel, as otherwise it is believed that you have no right to claim it and follow it everywhere.

Turning to the plant world, of all trees the elder has the worst repute, as the tree on which Judas hanged himself, or which supplied wood for the cross, and is hence accursed. Yet you earn three years' bad luck if you cut it down. If you stand under it at sunset in Oxfordshire, you will be bewitched, and in Suffolk you will earn misfortune if you burn its " wicked wood "—perhaps a memory of its association with the ancient mother of the elves. Blackthorn is another evil tree, accursed because it flowers on Good Friday.

Kissing under the mistletoe is a peculiarity of the English, whom Erasmus found to be a nation much given to kissing. But mistletoe is now rarely made, with evergreens, etc., into a proper " kissing bush."

The herbs in the garden sympathize with the household. If you find sage blossoming or rosemary flourishing, then " the mistress wears the breeches," or " the missis is the master." In Monmouthshire,

" Where the mistress is the master
The parsley grows the faster."

A good housekeeper is marked by the ability to grow myrtle and thyme.

You must never transplant parsley, or a member of your household will die. I have recently heard of transplanted parsley being pulled up very angrily by another person. The seed is uncertain in its germination, and the plants vanish surprisingly after the green shoots have shown themselves, having " to go down seven (or nine) times to the Devil."

The planting of potatoes, to thrive, on Good Friday has already been mentioned, and there are other local lucky dates for garden work, such as May 3 for setting kidney beans and May 7 for planting French beans.

Some flowers are looked on askance. The first snowdrop must not be brought into the house, and to offer the flower to the opposite sex is as much as a wish for their death. In Sussex the snowdrop is only unlucky if a solitary flower, which, if plucked and worn, brings death within a year to one of the family. In Somerset it only brings into the house ill-luck in chicken rearing. You invite death if you leave wild apple blossom or hawthorn in the house (Bucks), and it is a general idea that if your apple-tree bears blossom after fruiting it is a warning of a death in your family. In Devon the germander speedwell (" bird's eye ") is not picked bv school-children, as they fear that the birds would then peck out their eyes. Saffron (crocus) is believed by Cornish fishermen to bring bad luck, and saffron cake spoils the chance of a good catch.

Even yet some plants are looked on, like those of fairy tale, as " life-indexes "—*i.e.*, indicators of the life or death and prosperity of some human being with whom they are linked. The " mother of thousands " is called by some Londoners " the wandering sailor." A well-educated lady said recently: " If you possess one, and any accident happens to it, be quite sure that some misfortune will befall any relative who is a sailor. It is a most unlucky plant."

Space only remains for references to sample inanimate objects. In several counties farmers and labourers affirm that stones grow and multiply, and this explanation of their appearance in the soil " stands to rayson," as the atheist said of the existence of fairies. "Puddingstone" is shown as an obvious mother-stone. A few beliefs and customs still centre around stone circles, and around standing stones which turn round "when they hear the clock strike noon," or go down to drink, or are transformed men and women.

A passing mention is due to our healing wells and "wishing wells" (where pins are dropped as offerings), sadly diminished in number and fame. Many wells are said to heal eye troubles, and this is the virtue of the "holy well" of "Our Black Lady of Willesden," rediscovered in 1923 in the garden of the Vicar, who pays an annual fine imposed by King Henry VIII. for a "superstitious image" in the church, which was alleged to blink when a cure would be effected. A new healing well in Essex was also, in 1922, the scene of cures and of gatherings that were reminiscent of ancient pilgrimages.

The ancient awe of moon and stars expresses itself in the respect which children are taught to pay to them by not pointing at the moon or counting stars. Seeing the new moon for the first time through glass is ominous, and a shooting star foretells death. It is firmly fixed in the folk mind that the moon presides over the weather, which changes with it, although this is not supported by observation. Before last year's eclipse a charwoman assured my wife: "The weather won't change until after the epistle" (*sic*). The crescent moon, as first seen after a new moon, may, of course, be either upright or lying on her back, and is expected to predict the weather for the coming month. Curiously enough, the sailor and the labourer do not agree; when the moon is upright the sailor expects fine weather and the labourer foul. "Stand up moon, lay down sailor; lay down moon, stand up sailor." "When you see the old moon in the young moon's arms," bad weather is coming.

"Saturday new and Sunday full,
Never was good and never wull."

The waxing and the waning of the moon are still much regarded as, in mimetic magic, seeds are sown, trees grafted or planted, pigs killed, wood cut, and all things done during the waxing which it is desired shall increase or last longer, and during the waning all things in which the reverse effect is sought. To end on a very modern note, some women choose the time for shingling according to their belief that hair grows with the moon.

CHAPTER VI

GHOSTS AND SUPERNATURAL BEINGS

Ghosts are such a matter of course to the folk that they are hardly regarded as a matter of belief. A London girl said of her country grandmother a short time ago: "My grandmother, she didn't believe in nothing, she didn't. But one night, when she was coming home with her pony and cart from market, she saw the (village) ghost. She set off home as hard as she could, but she was as white as a sheet when she got home and all trembling. But she didn't believe in nothing, she didn't."

Folklore does not cover individual experiences of the type dealt with by the Society for Psychical Research, and is not concerned with the truth or falsity of the ghostly appearances. It should take note, however, of the traditional ghosts of the countryside, and of any similar modern developments. The *revenants* are usually those who came to a violent end, murderers, and those who are supposed to have left worldly business unfinished and therefore to have good reason for return. A convenient way of indicating the field for investigation seems to be to comment briefly on the apparitions of which there are published reports, in the part of the Press known to me, during the last four years, and which concern no less than twenty-four counties. Many more examples would no doubt be found if local newspapers were searched, and yet the whole would probably be only a fraction of recent appearances accepted by the folk.

Three are new ghosts on traditional lines. The first is at Crumbles, near Eastbourne, where on the shingle waste the murders took place in 1920 and 1924 of Irene Munro and of Emily Bielby Kaye ("the bungalow tragedy"). A bluey-white light was said in 1924 to precede night walkers there, and there is a report that a white figure seen in 1924 was one seen a long time ago, but not for a considerable while—so that after all this may be an ancient story revived. More interesting is the story in connection with the disappearance in December, 1926, of a famous novelist. People living in the neighbourhood of the lonely quarter where her abandoned car was found had, before the end of a fortnight, begun to see visions, and reported an apparition in white. Had the expectations of the local police been fulfilled, and a body found, there were all the makings of a full-blown and authenticated ghost story, which might well have been ultimately established as local tradition. In the third place, in June, 1923, there were reports of the reappearance of the "Black Lady of Windsor Castle" (said to be Queen Elizabeth), first seen in 1897.

One very curious feature in these recent ghost stories is that ghosts of antiquity and repute are in several cases said to have changed their haunts. Of three examples, the first is that recorded just before Christmas, 1926, at East Barnet, about ten miles north of London, where a night watchman reported that he had seen a clanking apparition of a skeleton in a long military cloak, identified with the ghost of a Geoffrey de Mandeville, first Earl of Essex, reputed to haunt Camlet Moat, a mile away, where he was drowned in the moat. The urban council ordered the surveyor to report if extra wages should be paid as a consequence to the watchman "for work of an exceptionally disagreeable character." The watchman who had told the story of the appearance of course denied to an inquisitive newspaper reporter that he had seen "anything out of the way," an ambiguous statement of the kind that often meets the inexperienced and too eager questioner in such cases. At East Barnet, also, folk belief is still alive as regards the Grey Lady who haunts the Grange.

The second change of place is at Fenny Compton in South Warwickshire. A "ghost light," a yellow and blue ray, has been said to flit over the lonely range of hills between that village and Burton Bassett. It appeared in 1924 on the exact anniversary of its appearance in 1923, and in 1924 was said to have left its haunt in the hills to dance and caper in the churchyard. Many people have been scared by it, and say that the ghost has the traditional large eyes of fire. The suggestion that it is due to marsh gas is, of course, scouted. Warwickshire also gave, in January, 1927, another story of a new ghost dressed in a modern nurse's uniform, but seven feet high, which caused hundreds of people to assemble at the Old Manor House, near the main street of Stourbridge.

The third example is the old lady in a mob cap who has transferred herself from the village inn to the village church of Chalfont St. Peter in Buckinghamshire.

Traditional ghosts have been often seen during the chosen years—*e.g.*, that of Cardinal Wolsey at Hampton Court Palace, where also Queen Catherine Howard and Queen Anne are said to have been seen, while Herne the Hunter is also said to have been heard near Windsor in 1926.

There is a tale current at Loughton in Essex and elsewhere that Dick Turpin roasted an old woman above a fire to force her to state where her money was hidden, and is therefore doomed three times a year to ride down Trap's Hill, where the wraith of the woman leaps upon his back and the two gallop madly away, to the ill-luck of any who may chance to see them. The swirling of mists across a lonely stretch of Watling Street, near Nuneaton, has long suggested a phantom horse and rider, believed to be Dick Turpin's ghost on its way to search in the lost village of Stretton-Baskerville for bags of guineas buried there. The ghost was reported as seen walking in a three-cornered hat and a coat with red sleeves by several people early in 1926, and in February, 1927, a party of motor-cyclists said that they had seen it riding across the common land.

A ghost at Bere Block Dell, a copse near Emsworth in Hampshire, is referred to in correspondence in 1695 as the ghost of Catherine, Countess of Salisbury, who was beheaded upstanding on Tower Hill, as she would not stoop her head to the traitor's block. Her reappearance has been recorded at long intervals, the last time being in 1923, when she was seen by many. (The ghost has also been said to be the apparition of a man murdered when the inn was a haunt of smugglers.)

There is a long list of ghosts now credited in the London area. At Neasden, near Wembley, five miles from the Marble Arch, it was recently believed that the road between the Welsh Harp and Kingsbury is haunted. There are ghosts seen at All Hallows, Barking-by-the-Tower, and haunted houses almost by the score. The most advertised ghost is, perhaps, the Brentford Cross Roads ghost of the early part of 1926.

In Kent there have been, within the last four years, ghosts alleged on Hangman's Hill; a haunted hop garden at Potkiln Farm, near Tonbridge; in 1926 a haunted manor-house near Maidstone; and a vagrant ward at Eastry, avoided by tramps as haunted. In 1926, also, a ghost seated on a white horse galloped a meadow bordering Pickhurst Hill on the road from Beckenham, and there were ghosts at Ashley Grange, near Folkestone, and Dadson House at Welling. Lancashire boasts a ghost, Lizzie from the Bolton moors, who visits the village of Withnell at the end of every Lent; visits were spoken of in 1923 and 1926. Norfolk still has a lingering belief in the Great Black Dog of Salhouse, with the fiery eye in the middle of his forehead, and in September, 1926, the ominous Brown Lady of Raynham was twice seen. The Woman in White haunting Coupland Castle, near Wooler (Northumberland), reappeared in January, 1926.

Headless ghosts of the ancient type have been seen—a woman in dazzling white in 1923 near the ruins of an old monastery (St. Helen's) between Datchet and Old Windsor (nearby which, runs the tradition, a golden carriage is hidden), and at Igtham and Fairlawne in Kent.

These instances show the liveliness of the belief in ghosts and the manner in which it creates new apparitions to fill any gaps in the long procession. Usually anything that gives a shock of terror to the folk mind, such as an atrocious murder, will be likely to result in a ghostly haunting. Cornish folk were deeply impressed by the misery and sufferings of the refugees escaped to land after the sinkings by German U-boats during the war, and in 1919 the descendants of the old wreckers of that coast believed that the spirits of those drowned or shot by the submarines haunted the rocks at night, waiting to lure to destruction with false lights any passing German vessel. They were even said to have been seen making preparations for their work. But instances are known in which, perhaps for lack of better grounds, the remaining empty of a house has been enough of itself to breed a ghost story. As Dr. Johnson said of appearances after death: " All argument is against it, all belief is for it." This belief and fear is expressed in the Norfolk saying:

" From all ghoulies and ghosteses,
From all long-leggedy beasteses,
From things that go wump in the night,
Good Lord, deliver us!"

It would be difficult to treat adequately within our space the fragmentary remains of belief in other supernatural beings than ghosts to be found in current folklore. The greater pagan deities are forgotten, but the folk recollect still a few smaller beings, such as the water spirits of the Tees (Peg Powler) and Ribble (Peg-o'-Nell), and Jenny Greenteeth, who are still credited with the seizure of victims. Some recollections are hardly more than hints, like "the Old Woman" who is in charge of the cuckoos and, according to her temper at the time, releases one or two or more, brought from France, at "Hefful Cuckoo Fair" (April 14, Heathfield Fair in Sussex). Jack-o'-Lantern or Will-o'-the-Wisp is remembered, and so is the Devil, from whom many places, plants, and animals are named—*e.g.*, the Devil's Dyke, the Devil's-bit (blue scabious), and the Devil's coach-horse (black cocktail beetle). The older Cornish miners have not forgotten the "knockers," sprites heard in the mines, and the "spriggans"; but the most remarkable news from a mining district came in April, 1926, when a "little, brown, man-like creature" was seen and handled with sticks in the Poolway Colliery of the Forest of Dean, but lost on the pit bank. A similar creature was found in a house at Coleford (Glos), crawling, but uttering no sound, in a coal scuttle. The "little man" was carried out and emptied into the drive of the house, and could not be found the next morning.

The "Gabriel hounds" or "gabble ratchets" (flocks of wild geese or whimbrels) cause a shudder now, as formerly, when their spectral hunt sweeps overhead.

Fairies are probably now lost from all but faint memory over most of England, their last appearance in Sussex being at Faygate twenty years ago. On "The Fairy Hill" at Ellingham (North Northumberland) they danced every night "until the railway was made," when they left for parts unknown. In Suffolk the fairy loaves (fossil sea-urchins) are nowadays "quite finished with; children don't go in for these." I do not know whether in the Wye Valley the "standards" (single stems at intervals left uncut in hedges and sticking up like little bushes above the remainder) are still left " for the fairies to hide in." In Hampshire some say that apple windfalls must not be made into jelly before St. Swithin's Day, as they are not rightly apples till christened by him and are the fairies' food. But in Devonshire the pixies are yet the explanation of bewilderment out at night, only to be countered by turning the pocket or coat inside out. On New Year's Eve, 1926, a Cornish maidservant waited up until the moonlight fell upon her bedroom window, and then spread out all her money, face upwards, on the outside ledge, and left it till morning. The coins were then turned over and kissed, before bringing in, and the ceremony was expected to obtain a guarantee from the pixies of a year's good luck. Elsewhere in England money is occasionally put out on New Year's Eve, but there is no association with the fairies, only the idea that you will then be bringing money in all the year, because what you do on New Year's Day you will do the year long. There are other instances of surviving faith in pixies, such as the dropping of pins as offerings in their haunts.

Room must be found for brief mention of " The Angels of Mons," a vision in which were embodied the appeals and hopes of exhausted and almost despairing men. Evidence favours their independence of Mr. Machen's story of " The Bowmen," and, however that may be, the English tales of St. George and his company, seen by the French as St. Michael and Joan of Arc, throw light on the folk mind. In 1917, at a time of great discouragement, a similar story of " The Angels of Essex " came from Grays and Waltham Abbey. A third manifestation was the beating of " Drake's drum," heard by so many where no drum could be, at the surrender of the German fleet on November 21, 1918.

CHAPTER VII

DIVINATION, OMENS, AND LUCK

A STRANGE hunger to know the future is a universal human trait, and the methods of satisfying it by attempts to divine what is going to happen are not only numerous, but so familiar that little need be written about them here.

The professional fortune-teller of Mayfair and the back street, who works by cards, crystal-gazing, handwriting, palmistry, astrology, psychometry, or clairvoyance, has in great part displaced home practice of the old arts, such as the rites to learn the names and persons of coming lovers and husbands on St. Agnes' Eve, Valentine's Day, Midsummer Eve, and All Hallowe'en. It is curious that the traditional rites of All Hallowe'en are better maintained in the United States than in this country. Here even tea-leaf fortune-telling has been commercialized, and one can buy cups ready marked with astrological signs or miniature playing-cards, to facilitate reading, as well as crystal balls obligingly engraved with numbers on their facets, from which fortunes can be read off from an accompanying table. There is also to be obtained a wooden model of a book, into which is screwed a metal turn-handle, so that there is a ready-made apparatus in substitution for the "Bible and key." It will be remembered that with the "Bible and key" the door-key is placed in the Gospel according to St. John or the Song of Solomon, and the Bible tied round with a garter from the left leg, so that it can be suspended by resting the key ring upon the fist or upon two wedding fingers. A passage is repeated—*e.g.,* Song of Sol. viii. 6-7—and then the alphabet, the key and Bible twisting when the initial letter is reached of the name desired. To detect a thief, the key wards must rest against the words of Ps. l. 18, and the verses should be repeated before each name of a suspect is spoken. With the "shop" apparatus it is only necessary to repeat the alphabet, and all the mystic thrill is lost.

Another commercialized divining means is that for the detection of the sex of the unborn, which was shown to a doctor friend billeted in Norfolk during the war. His landlady wanted to separate hen eggs for setting from cock eggs for immediate consumption, and suspended a small cork by a thread held between thumb and forefinger over the egg to be tested. The sex was announced by the cork oscillating from side to side or moving in a circle. She said the pendulum would only indicate sex for certain people, and, in reply to a question put some time afterwards, said that the selection had succeeded " fairly." This method of divination is now chiefly practised as a Christmas game, with a thread, a shilling, and a wineglass, to answer questions, tell a lady's age, and so on.

Astrology seems to have gained greatly increased attention, and in 1926 a popular paper published horoscopes for the days, and it was asserted at a Burnley inquest that the body of a drowned man had been found through the instructions of an astrologer. Corpses of the drowned have also been searched for repeatedly, and in a number of different counties during recent years, and even by the police, by the ancient means of floating on the stream or pond a loaf loaded with mercury. The loaf is expected to stay or loiter above the hiding-place of the body, but usually fails to do so.

The observant reader will see certain divinations in constant use around him, especially by women, such as the never-failing "This year, next year, some time, never," in counting fruit-stones, buttons, etc.

Almost anything, approached in the right spirit, can be employed as a means of divination, probably with an equal chance of success. A delightful example was told in 1924 by an Oxford professor who had searched vainly for weeks for a library of cuneiform tablets. " In despair, and grasping a chance of divination, I went alone to the top of the mound, and chose a brick of the age of Nebuchadnezzar, which lay at my feet, and marked on it an arrow. Then, after blindfolding myself, and turning round many times to lose my bearings, I threw the brick backwards over my head. The next morning digging was recommenced at the place indicated by the arrow, and within two hours a large nest of valuable literary tablets was found."

The decrees of Fate may be discovered by active measures of divination to force their disclosure, or by passive observation of the shadows cast as omens of coming events. So many omens have already been mentioned incidentally in previous chapters that they may be dismissed very briefly now. The prevalence of fear of the future is shown by the overwhelming number of " ominous " presages, chiefly of death. Almost anything unusual—a falling picture, a cat dying in the house, rats nibbling the furniture, a broken mirror, a mole approaching the house, the howling of a dog, a cock crowing before midnight, the screeching of an owl, the breaking of the Christmas pudding, the stopping of King Henry VIII.'s astronomical clock at Hampton Court (occurred in 1924), a diamond crease from bad crossing of a tablecloth at the laundry, a horse whinnying at a funeral, and a hundred other things—all betoken death. News is foretold by a moth settling on one or bees buzzing about the room, and a strange visitor by forgetting to put the lid on the teapot when making tea; but the list of omens might stretch on to the crack o' doom!

A whole chapter would be necessary for a list of omens from one's own body—spots on the nails for gifts, meeting eyebrows for those to be hanged or drowned, hair cast into the fire burning brightly for long life, tingling of the ears for scandal talked about one, itching of the nose for a coming vexation, itching of the right hand before receiving money and of the left before paying it, itching of the sole of the foot before treading on fresh ground, and even for our sneezes—

"Sneeze on Monday, sneeze for danger,
Sneeze on Tuesday, kiss a stranger,
Sneeze on Wednesday, get a letter,
Sneeze on Thursday, something better,
Sneeze on Friday, sneeze for sorrow,
Saturday, see your true love to-morrow."

Even when we are dead the corpse continues to give its omens, as if it does not stiffen there will be another death in the family within three months, and if the eyes do not close it is looking for a companion.

Those who have staked anything on a risk find comfort in all sorts of omens. In 1926 I was told by one who had drawn Coronach in a "sweep" that he knew that this horse would win the Derby, as it did, because his wife saw two piebald horses on the preceding Monday.

Dreams, in all their inconsequences, are much relied upon, but they go by contraries—*e.g.*, to dream of a funeral three times makes matrimony certain—and tradition is followed in their interpretation rather than the numerous dream-books.

Days and seasons are still much regarded. In Worcestershire the wind will persist till Christmas in the same quarter as it is in at midnight on St. Clement's Day, and a bad fruit season in the Evesham Valley is expected if the cuckoo is heard before Tenbury Fair (April 20) or after Pershore Fair (June 26). St. Swithin's Day keeps its repute for forecasting the weather for forty days, despite its annual discrediting.

Great importance is attached to the flowing of intermittent streams after heavy rains—such as the three in Kent, the Drelingore Nailbourne between Folkestone and Dover, the Lyminge stream, and the Petham stream, the Lavants in Hampshire, and, before all, the Woe Water near Croydon. The latter is alleged, by Aubrey in the seventeenth century, as by many to-day, always to flow before a great national event. No notice is taken of the years in which its flowing has not been followed by anything remarkable, but a list is made of all chance coincidences with such occurrences as the Great Plague. It flowed in 1925, 1927, and 1928.

Besides the divinations deliberately made, and the omens which offer themselves, to forecast the future, there are many things which can be done or not done, or which may happen, and which will affect one's "luck." The folk do not usually regard life as a matter of mere chance, but rather as a matter of luck and, in part, of Fate. A woman, waiting for the arrival at a London cemetery of a funeral recently, was heard to say: "She was christened in church, and she was married in church, and now she's being buried in church! It's Fate!" Most people believe in luck, because it seems to explain many of the surprises in life, the accidents that seem to alter the whole course of a career, and the successes and failures that seem alike undeserved. It is not to be wondered at, therefore, that there is a long list of things to be done or not to be done, and others to be avoided or welcomed, for the sake of this luck, which almost seems a deity to be propitiated.

In many cases the central idea is obvious of a whole group of beliefs hailing from different districts. For example, that it is unlucky to do anything out of its proper season seems to be why you must not eat an apple before St. Swithin's Day, bring into the house mistletoe or eat mince pies before Christmas, bring snowdrops in before the first chickens are hatched, and have a "palm" in the house before Palm Sunday, and why an engaged couple must not be godparents or be photographed together. A similar idea of ill-luck in impropriety seems to attach to two people passing on the stairs (which will lead to a quarrel), pouring from one teapot, or washing in the same water.

"Luck" dictates what must be done in many matters. You must not walk under a ladder, nor sit thirteen at table. In sweeping a room, you must begin by sweeping towards the centre. As for cutting nails, most people know the rhyme beginning—

> "Cut them on Monday, you cut them for wealth,"

and ending—

> "Cut them on Sunday, you cut them for evil,
> For the rest of the week you'll be ruled by the Devil!"

It affects the household breakages also, for the charwoman or maid, after a first breakage, will resign herself to two more, and even select the most suitable articles. The same notion of triplicity applies to lighting three cigarettes from one match, and black once worn for mourning is expected to be worn three times. Sex taboos seem to survive in the ill-luck of meeting a woman on the way to work in the mines or in a fishing-boat. In Northumberland she is specially unlucky if fair-haired and flat-footed. To meet a chimney-sweep is lucky, and in Leicester means a "good pay-day." Good luck is attached to everything deformed and crooked—a hunchback, crooked sixpence, etc. In London a bed must not be put across the boards, evidently a recollection that it was once held that death would be uneasy if the bed were across the beams or boards.

Unlucky days, once very numerous in our calendar, are now represented by Friday (on which beds must not be turned nor many other things begun or done) and Holy Innocents' Day, still more unlucky. In Devon blankets must not be washed in May, or you will "wash relations away."

One of the most general beliefs is that it is unlucky to receive a knife or scissors as a gift without paying for it. In 1927, when Queen Mary was given golden scissors at Edinburgh to cut a ribbon, she is said to have insisted on paying sixpence for them, as "otherwise it would be most unlucky," and a similar payment is told of the Lord Mayor of London in 1928 at Felixstowe.

The lucks of numbers (believed by many distinguished people, and including the extraordinarily lively objections to thirteen) and of colours cannot be dwelt on. "If you wear green you will soon after wear mourning." Hens are always set with an uneven number of eggs, or the eggs will be addled or the chickens will not thrive.

For some lucks it is very difficult to suggest any explanation. Why, if (in Devonshire) anyone steps on the place where a donkey has been rolling, should evil soon follow? (I know that, in Devon also, a cure for whooping cough is to roll on the "form" from which a sheep must be turned off while dew is still on the field.) Why, before the war, should the playing of a German band be said everywhere to bring rain? Why should it be unlucky to keep your own hair combings?

Many very familiar lucky and unlucky things have not been mentioned—touching wood, unlucky houses and objects, etc.—but we ought not to pass over the "chains of luck" which for a number of years, right up to 1928, have worried nervous women. You are requested to send a copy of the message to nine people, and then comes the threat of "luck." "Whoever does this will have great joy and happiness, but to those who neglect this will come misfortune. Do not break the chain. It was started on a Flanders battlefield."

CHAPTER VIII

CHARMS AND CURES, AND WITCHCRAFT, BLACK AND WHITE

In a certain Northern mining district, lots are drawn on "cavilling day," once a quarter, for the best working places in the mines. As the chance result seriously affects the household income, the wives are naturally anxious to influence it, and a favourite charm is for them to stand cross-legged and at the same time put the family cat into the oven. This is a specimen of innumerable charms to influence future happenings or to ward off ill which can still be found in use, in full faith, though often furtively for fear of ridicule.

Although, as I stated in the last chapter, the love divination common fifty years ago has been largely ousted by vulgar fortune-telling, there are still girls in London and in many country districts who buy " dragon's blood " (the resin from the *Calamus draco* and certain other trees, used chiefly in varnish-making) to throw into the fire to regain a false lover, or burn " tormentil root " (*potentilla tormentilla*) at midnight on a Friday for the same purpose. An incantation should be recited with the dragon's blood somewhat to the following effect:

" 'Tis not this blood I mean to burn,
But my love's heart I wish to turn.
May he no pleasure nor profit see
Until that he comes back to me."

At Nottingham Shire Hall in 1927 a sentence of imprisonment was avoided by the refund of £97 which had been paid for a love philtre (consisting of a mixture of boracic acid and baking powder) to be used to " cure " a husband of unfaithfulness which was only alleged by a fortune-teller.

Many charms involve spitting. The coster spits on his first takings of the day, and in Devonshire it is very lucky, if you find a piece of coal, to spit on it and throw it over your right shoulder. But the magical qualities of saliva are outside our present range.

Charming, especially for serious ailments, is generally the work of the white witch (most often a man) or wise-woman, who in a town would probably be called a " herbalist." *The Times* of 1920 tells us that in the East

End of London a charm for scalds is for the herbalist to blow three times on the blisters, repeating the words:

> "Here come I to cure a burnt sore.
> If the dead knew what the living endure,
> The burnt sore would burn no more."

But there is also a great deal of family and private practice, for medical and other purposes. For toothache you should sit under an ash-tree and cut your toe-nails. The *Crediton Chronicle* reported in 1914 that, when a Dorset auctioneer was on his way to have a tooth drawn by a dentist, a farmer friend begged him not to go, but to put his arms round a young ash-tree, make a slit in the bark where his fingers met, and then pull out some hair from the back of his head and put it in the slit.

The surviving charms for the common ailment of warts are very numerous indeed. A common idea in them seems to be to count the warts and symbolically link them to something else which will decay, or be lost, and so carry off the warts. For instance, a stick may have notches cut to the number of the warts and then be buried, a parcel of pebbles of the same number may be thrown away, the inside of a broad-bean pod or a *stolen* piece of beef may be rubbed on the warts and thrown away or buried, a pin may be run into each wart in turn and stuck into an ash-tree, and so on. If anyone picks up the stick before it is decayed, or the pebbles, etc., the warts will be transferred to them.

The charms for whooping cough are almost as numerous. A small piece of the child's hair will be put between two pieces of bread and butter and given to a dog, to whom the disease is transferred. Or a saucer of milk is given to a ferret to drink, and then snatched from it and given to the child, and the ferret killed; a more humane form of this charm is to cut hair from the child's noddle, chop it fine, put it in milk, and divide the milk between the child and a ferret. In another charm the child is given a drink of milk in which a live trout has been made to swim. But perhaps the most interesting of all is to "break the cough" by taking children from North London to the Viaduct, Archway Road (Highgate), "the highest point in London, to get the four winds." (It is stated that there was a similar practice at Chelsea, sixty years ago, to take the sufferers to "breathe the seven winds" in the middle span of Old Battersea Bridge.)

In place of charming by a formula or by a symbolic or magical act, the end desired may be attained, more particularly if it is protection or the warding off of some sickness or other evil, by carrying on the person, or putting in the place to be affected, an amulet. The amulet may be something supposedly powerful in itself or made so by magical art. Few people have any conception of the extent to which amulets are now worn. It is, perhaps, as great as it was a century or two ago, though the purpose may be a little more vague, being in many cases for luck in general rather than for anything specific. Undoubtedly, if there is faith in them, they give the confidence which helps to success, and so strengthen belief. An East End doctor has estimated that 40 per cent. of the children at the schools which he attended wear some sort of amulet under their clothes—*i.e.*, not as an ornament, but as a protection. It is very difficult, however, to get direct information from the wearers, or even an admission of their presence. A very common amulet is a string of special blue beads worn as a preventive of chest ailments, both in London and in the country, and never under any circumstances removed. My wife showed such a string to a charwoman and asked if she knew anything about it, to which the woman replied, "No," after the suspicious fashion of those who think that you are "getting at them" in some way. But later in the day she said, "My Gladys wears a string like that you showed me," and, when questioned further—"Do you ever take it off, say, when you wash her?"—replied, very promptly, "Oh no! Then she'd catch cold."

The frequency of the wearing of amulets is attested by the newspaper references to them in the contents of the pockets of those found drowned or murdered. I have notes of many. A girl bludgeoned near Hull in 1926 had a lucky penny with a hole in it in her handbag; the body of a man drowned in the Thames in 1923 had a black-cat amulet in the pocket; a woman rescued from the Avon at Bath in 1921, who refused her name, was identified by the two lucky beans in her purse; the victim of a terrible murder at Liverpool that excited the country in 1913 had hung around her neck a medal of the (Japanese) "three wise apes"; etc.

The war undoubtedly caused a very great revival in the use of certain classes of amulets, officers carrying them as much as men and affecting such things as netsukes. The baby's caul, which, as a preventive of drowning, was costly to buy during the Napoleonic wars, and had slumped to almost no value at all as sailing vessels decreased, again became a treasured possession in the days of U-boats, and is still occasionally advertised for sale.

A great foe, and fear, of the outdoor labourer is rheumatism, and many things are carried for it. Fishermen in the North and London gas-stokers have the T-bone from the cheek of a sheep's head. Many people carry potatoes (which by their drying up show that the "screws" have gone into the tuber instead of into the joints), wear a silver ring (which blackens as it absorbs the evil), or trust in a mole's foot, pebble, chestnut, bit of coal, leather-covered little tube of mercury, piece of brick, or innumerable other things.

It would be tedious to attempt a list of the amulets of old standing still in use—the hare's foot for cramp, the birthstone and zodiac rings of which some jewellers' shops make a feature, the rare surviving witch balls, the epilepsy ring made without payment from a half-crown of sacrament money, the holed stones, and the rest.

Much more astonishing than the revival of some ancient amulets, however, is the enormous outburst of new ones, and importations and adoptions of foreign amulets, under the less "superstitious" name of mascots. There is even a London manufacturer of talismans designed on astrological lines. The word "mascot," which covers luck-bringing persons as well as objects, is derived from a Provençal word, *mascotte,* popularized by Audran's comic opera *La Mascotte,* first performed at the end of 1880. At the height of the craze, about 1922-1925, the chosen mascots were put upon nearly everything feminine—handbags, handkerchiefs, scarves, umbrella handles, bathing caps, and hats, and even "undies" were marked with the mascot instead of the monogram. The fashion affects both sexes, and mascots are poured as lucky gifts upon candidates at by-elections, flying men, and football and cricket teams. Few motor-cars are now without some one of the innumerable forms, either inside the back window or on the radiator cap. They have even been adapted to advertising, and at the Wembley Exhibition you were invited to "stroke the lucky cat" in china amongst one company's exhibits, and Wills's issued cards of "lucky charms" with their cigarettes. The Great Western Railway Company in 1922 took advantage of the craze and distributed to its staff 50,000 copies of a small metal "charm against accidents—'Is it safe?'" and expected them to be carried.

The panel of the Insurance Acts has dealt a shrewd blow, that may ultimately be fatal, to the pharmacopœia of the folk, though probably "cinder tea" and a few other nursery specifics will linger long. Folk medicine, for the most part, did little harm with its simple remedies, although there were bad exceptions, as there are amongst "patent medicines." In an inquest at Leeds in 1927 the police surgeon reported that the deceased had died from a dose, taken as a remedy for diabetes, of pigs' claws boiled, powdered, and made into a kind of tea. At one recent period the popularity of "dog grease" as a cure for rheumatism led to the decoying and killing of dogs in Blackburn, and to a prosecution before the magistrates. Some remedies are of very ancient date. The mouse was a child's medicine in ancient Egypt, and, when roasted or fried, is now regarded in Peakland as a remedy for whooping cough, and, when boiled, in London as a remedy for a certain lack of control during the night. The onion is an especial favourite, both as an amulet and as a preventive for smallpox; it was hung up in houses in Sheffield during a slight epidemic in 1927, and in 1924 near London slices were put between the stockings and soles of children to ward off whooping cough. Many of the folk think that the natural gifts of the seventh son of a seventh son are far more valuable in medicine than the mere professional training of an ordinary doctor.

A whole library of books, pamphlets, and magazine articles is in existence about witchcraft, and most readers will have some acquaintance with the subject, and a natural horror of the cruelty with which poor old women were pursued in the witch hunts. It is now almost two centuries and a quarter since the last execution of witches, though an old woman died from being ducked as a witch at Longmarston in Northants as much later as 1752. Fortunately we have at present neither to summarize nor to supplement the extensive literature already produced, but to inquire briefly whether the belief in witchcraft, and its practice, are any part of the folklore of to-day. This is not a matter on which strangers are readily admitted to confidence, and witches are not mentioned plainly until they are dead and no longer dangerous, but there seems to be clear evidence that in almost all quarters of the land the belief is latent and comes to the surface on occasion. The fortune-teller often carries out practices that are not easily distinguishable from those of the witch, and the white witch and wisewoman maintain themselves in evidence not only by dealing with the "overlooking" so often suspected to be the work of the black witch, but by side lines of children's diseases and as herbalists and consultants on matters which in the town fall to the beauty parlour. The wisemen are far more numerous than the witches. A few examples must suffice.

In 1915 the *St. Albans Diocesan Gazette* gave an account of a reputed witch in Essex, recently dead, whose ghost was laid in the traditional manner. A lady told the exorciser that before her death a neighbour had called and found her feeding her niggets, " those creepy-crawly things that witches keep all over them." In November, 1922, the Kingston county justices had before them a quarrel between neighbours at Cobham. The complainant's daughter said that the defendant had tried to stop her wedding by accusing the betrothed couple of practising witchcraft. In 1923, at the Yarmouth Police Court, in a case of trouble between two women, a woman gave evidence that ten shillings had been paid to a witch for a spell on her sister, and her brother had to pay a pound to have it taken off. In 1924 a smallholder was charged at the Petty Sessions at Cullompton, Devon, with scratching a woman's arm so that it bled profusely, and with threatening to shoot her; the defence was that the woman had " ill-wished " him and bewitched his pig. In 1926, at Glastonbury Police Court, an application was made by an almsman for a summons for witchcraft against another almsman, who was said to have bewitched the former and his clock. In 1926 it was reported that a woman in Norfolk, who found her husband was attracted by another woman, was given, by a friend whom she consulted, the Lord's Prayer written backward, which she had to fasten under her blouse and keep there for three days each week until the husband changed; after a fortnight he would not recognize the other woman. At Tipton in 1926 two men were bound over for threatening an old woman who lived in a van, against whom several witnesses appeared, to say that they were terrified when in her presence and believed her capable of putting a curse upon them. The men said that she had put a spell over the wife of one and the sister of the other, who had had to be removed to a lunatic asylum. In September, 1926, a man was charged at Newton Abbot Police Court with wife desertion, and replied that he objected to her " witchcraft business." She had charged him with laying something on the rug to make his son ill, and when he went to sit in his chair he found it ringed by salt—*i.e.*, a precaution against witchcraft. She had put articles belonging to him near her photograph, so that she might work spells with him. Finally, in 1927 a gipsy was charged at the Cornwall Assizes at Bodmin with obtaining £500 over a period of some years from a St. Mawes gardener to remove the effect of " ill-wishing."

East Anglia and the West Country, from which come the majority of the above cases, may be looked on as the main strongholds of the faith in witchcraft.

CHAPTER IX

CONCLUSION

It will be appreciated that it was impossible in the preceding chapters to cite the authorities for individual items, As the volume is limited to folklore known to be living in very recent years, the sources are, in general, not books, but newspaper paragraphs, and especially reports of legal proceedings; but many items come from oral information, and others have been checked thereby. It was also impossible in most cases, and probably unnecessary, to define the exact area in which a particular practice is to be found, but it will be understood that few customs are universal over the whole of England, or are known to everybody in their particular area. Probably every reader who is interested in old beliefs and customs could add considerably to what has been written. It is to be hoped that he will make some note of his recollections, with date and place, for our folklore of the past lies chiefly in the memories of old people, and much of it will be lost as they slip out of the ranks. The items of folklore are no less precious, but much more perishable, than the fragments of pottery on which the archæologist bases so much of his story. While several smaller nations, such as Finland and Esthonia, have made remarkably full collections of their folklore, from which the national history can be enriched, England loiters behind, and it is to be feared that very much of the past has already been lost irrecoverably. A great amount of collection of facts is still necessary before the brilliant theories of the world within and without us, set out in more ambitious volumes, can be said to be broad based or more than hopeful guesses.

In Chapter III. there has been an intentional omission to discuss a number of matters which it would have been difficult to deal with in few words, such as borough English, gavelkind, and many illuminative manorial customs. There has also been no mention of some large sections of the subject, which the exigencies of space shut out from other than the following very brief references:

Folktales.—The roll of English traditional stories is a beggarly one, if compared with that of other nations, both those within and those without the British Isles. It is to be feared that few more ears can now be gleaned of what might have been the golden sheaves, for there is no reason to suppose that in early days our forefathers were less fond of a story or less imaginative than other peoples. Some of our tales have been kept alive, and spoilt, by guide-books. Probably a few short stories, and especially humorous stories or drolls, could still be gathered by the diligent, before " the wireless " fills every winter evening by the fireside.

Folk-Songs.—Here our store is at least as rich as that of any others, and since 1898 the Folk-Song Society and Mr. Cecil Sharp have rescued large numbers from oblivion. As regards one section—" work songs "—by which is meant songs with rhythm and tunes adapted to aid co-operative work such as hay-turning, no extensive collection has been made, apart from seamen's chanties.

Folk-Music.—Its peculiar characteristics and beauty are now appreciated, and much has been done to collect it since Chappell's *National English Airs* and *Popular Music of the Olden Times* appeared from 1838 onwards.

Folk-Dance.—This has come into great public notice since the foundation of the English Folk-Dance Society in 1911. Traditional dances still survive in a few bright spots. The Furry, or Flora, dance through the streets of Helston (Cornwall) on May 8 is well known by annual photographs. Another famous dance, the Abbot's Bromley Horn Dance, had fallen into disuse, but was revived in 1908.

Folk-Drama.—Versions, however fragmentary, of any folk play or dramatic performance, and especially the mumming play, are urgently wanted before they vanish entirely, which seems likely to be with the generation now passing.

Proverbs and Sayings.—Of these large numbers have been collected, but many are still current and have not been printed. If they appear to be a part of some story, like the saying "As throng as Throp's wife," it should be ascertained, if possible, what the story is. Many proverbs are the "moral" of forgotten stories.

Rhymes.—Nursery rhymes, counting-out rhymes for games, and especially taunting sayings between villages, should be amassed. Here is one from the West Riding, which has not, so far as I know, been printed, and which expresses very well the local conditions fifty years ago, when I first heard it:

"Bradford for cash,
Halifax for dash,
Wakefield for pride and poverty;
Huddersfield for show,
Sheffield what's low,
Leeds for dirt and vulgarity."

Riddles.—I do not think that there has been any systematic collection of riddles, nor are they likely to be as numerous as with some Continental nations, but the number already collected, as it were by accident, shows that there are probably more to come. Here, also, prompt collection is necessary. Here is a specimen from Oxfordshire:

" Long legs, short thighs,
Little head, and no eyes."
(Answer: A pair of tongs.)

Games.—Lady Gomme's two valuable volumes (see Bibliography) contain descriptions, music, and songs of a very large number, and other collectors have dealt with smaller groups—*e.g.*, string games—but there is yet a good deal of work to be done, as an American collector proved not long ago by his gatherings in the streets of London.

Folk-Arts.—The only museum where these can be studied at present is, I believe, that at Haslemere, and the student has here a wide and almost unoccupied field, from which much can be learned about the racial spirit. Trade and local costumes, such as that still surviving amongst the "bondagers" or girl-workers of North Northumberland, should be noted.

To conclude, it may be repeated that the matters passed in review are by no means the whole, or even all the most important, of the current items of English folklore. Without its historical background of earlier beliefs the mosaic picture is much less intelligible, and even with it many pieces of the mosaic are still missing. Readers can, if they will, help to supply them.

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